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ABSTRACT

This document consists of a teacher's guide for a competency-based course on homestead and gardening skills designed for North Carolina's 11th- and 12th-grade students, and a list of competency test items applicable to the course. The teacher's guide contains course specifications, a list of competency statements, a sheet describing each unit of instruction, and a 161-item bibliography. The units cover general concepts in agriculture and agribusiness; Future Farmers of America activities and a supervised occupational experience program through home, school, and community resources; homestead planning; homestead and gardening mechanics; home safety; and home gardens. The test item bank contains true/false items, matching items, multiple choice items, ranking items, short answer items, fill-in-the-blank items, essay questions, drawing projects, and field demonstration projects. All items are cross-referenced to competencies in the homestead and gardening skills course. Answers are provided for all objective items; for other items, teachers are advised to develop such devices as observational checklists. (CML)

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Homestead and Gardening Skills

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Division of Vocational Education
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HOMESTEAD AND GARDENING SKILLS

A Guide for Providing Instruction for 11th
and 12th grade students enrolled in North
Carolina's secondary schools

COURSE NUMBER
7091

Developed By:

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Division of Vocational Education
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PREFACE

Americans are experiencing tremendous technological changes in their daily lives. In recent years the trend has been a return to basic survival skills needed to cope with the problems of normal home and family life styles. More Americans are realizing that basic skills are needed for managing and maintaining a homestead.

As society's needs change, Vocational Agriculture prepares course offerings that will meet present and future needs of students enrolled. Although technology on and off the farm is at an all time high, the basic day to day skills needed by individuals to establish and maintain a homestead are missing in most educational offerings. With this in mind, the "Homestead and Gardening Skills" course guide has been prepared and made available for high school agricultural instructors offering the course to 11th and 12th grade students.

The course provides students an opportunity to acquire knowledge and skills needed to perform tasks around the homestead. This includes homestead planning and landscaping; general maintenance care and use of yard and garden tools; use of tillers and lawn mowers; handling electrical, plumbing, carpentry, concrete, painting and homestead repair needs; planning and growing a profitable garden and developing home safety practices important in and around the home.

In addition, students are provided opportunities to participate in the Future Farmers of America activities, thereby enhancing the development of leadership abilities in parliamentary procedure, public speaking and other FFA sponsored experiences. Each student is encouraged to plan and conduct a Supervised Occupational Experience Program through home, school and community resources.

ACKNOWLEDGEMENTS

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North Carolina Department of
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- C. Garden Tractors and Tillers
- D. Electricity
- E. Sprayers, Dusters, and Granular Applicators
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COURSE SPECIFICATIONS

PROGRAM AREA: Agricultural Education

COURSE: Homestead and Gardening Skills - 7091

DESCRIPTION: Homestead and Gardening Skills is designed to develop skills needed for planning, establishing, and maintaining the homestead and garden. Students will receive instruction on making decisions on the value and economics of a well-landscaped homestead and a productive garden. Instruction will include the applications of skills in establishing and maintaining a lawn; selecting, planting, and caring for shrubbery; site preparation, selecting varieties, planting, pest control, and harvesting garden vegetables and small fruits; selecting, planting and caring for fruits and nuts on a small plot of land; using and maintaining tools and equipment used around the home and gardens; and making minor repairs in and around the home. Students will also receive instruction in public speaking and parliamentary procedure to prepare for community participation and service.

PURPOSE: The major purpose of instruction in Homestead and Gardening Skills is to develop certain knowledge and skills needed by students as future home owners and gardeners. In achieving this purpose, students will develop skills for making consumer and practical life decisions and actions relative to agriculture and agricultural products. Leadership and human relation abilities will be developed through participation in FFA activities, which are conducted concurrently with instruction and are an integral part of the total program.

Learning experiences will be gained through supervised occupational experience programs; simulated work in the school greenhouse, agriculture shop, and grounds; classroom activities, and field trips to local businesses and homes.

CREDITS: The course is designed to be offered in grades 11 and 12 for one hour per day for 180 days per year with one unit of credit. There are no prerequisite agriculture courses needed. This course is intended to supplement and complement the regular Vo-Ag program.

SPECIAL OR UNIQUE ASPECTS OF THE COURSE: This course does not fit into the scope and sequence of the vocational agriculture program. It is designed for those students who have missed Vo-Ag classes in their first two years of high school, but desire some agricultural, mechanical and leadership skills. This course has no prerequisites, nor is it designed for articulation with another Ag. course. It should be offered in addition to, not in lieu of, the regular program. The course should be structured so that the necessary equipment and facilities are available.

PHYSICAL FACILITIES: The physical facilities needed for teaching Homestead and Gardening Skills include a classroom, agricultural mechanics laboratory, greenhouse, school or home landscape area and access to local businesses for instructional purposes.

EQUIPMENT: The equipment of current state equipment lists for vocational agriculture will be sufficient for most instructional programs in Homestead and Gardening Skills. Refer to State Department of Public Instruction bulletin, "A Guide for Planning Buildings, Facilities, and Equipment for Vocational Education in Agriculture." Sufficient audiovisual equipment for individualized and group instruction should be available.

TEACHER CERTIFICATION: Teacher certification shall be as follows:

1. Vocational A or G via Agriculture Education degree.
2. Provisional Vocational A certificate (PVA) via degree in Agriculture and Life Science.
3. To keep abreast with modern development and latest techniques, it is recommended that teachers attend workshops, which may be conducted in areas relative to homestead planning and gardening.

RECOMMENDED CLASS SIZE: The number of students in a class should be determined by the facilities available for providing effective instruction. However, it is suggested that 12-25 students be enrolled per class in 7091.

EVALUATION: In addition to periodic evaluation by the Division of Vocational Education of the North Carolina State Department of Public Instruction, the following self- and local evaluation should ascertain if:

1. the relevance of the units taught meet the need of students and the community.
2. the objectives established for instruction have been attained.
3. all students conducted supervised occupational experience programs for gaining practical experience.
4. all students have an opportunity to become members of the FFA and participate in activities provided through that organization.
5. satisfactory facilities, equipment, tools, and instructional materials are available for conducting high quality instruction.

COURSE DESIGN: The Homestead and Gardening Skills course is designed for junior and senior high school students and requires no prior prerequisites. The course is divided into six units of instruction with the main emphasis being on homestead planning, homestead mechanics, and home gardening.

COMPETENCY STATEMENT	Core (X)
A. General	
001. Identify the major areas in the agriculture/agribusiness industry.	X
002. List six ways agriculture is important to the economy of the state and nation.	X
003. Identify five factors that have an influence on agriculture.	X
004. Trace farm products in the area from the farmer to the consumer and identify cost factors in each area.	X
005. Identify and discuss major reasons why agricultural education is important.	X
B. FFA and SOEP	
006. Identify the history and structure of the FFA organization.	X
007. Identify six aims and purposes of the FFA.	X
008. Identify six activities to be included in a local FFA program of activities that will help to meet individual, chapter, school and community needs.	X
009. Conduct a business session using recommended parliamentary procedures.	X
010. Plan and implement a supervised occupational experience program (SOEP).	X
011. Maintain appropriate records on each type of supervised occupational program.	X
C. Homestead Planning	
012. List the factors to consider in planning the homestead site.	X
013. Identify the components and draw a plan of the homestead, considering the physical factors of the site.	X
014. Identify and select lawn grasses and ground covers.	X
015. Establish the home lawn.	X
016. Schedule and perform lawn maintenance duties including fertilization, mowing, and pest control.	X
017. Identify and select appropriate shrubs and trees for the homestead based upon their appearance and use.	X
018. Plant shrubs and trees properly for the homestead site.	X
019. Perform shrub and tree maintenance activities including fertilization, pruning, and pest control.	X
020. Select fruit and nut plants for home use.	X
021. Establish and maintain fruit and nut plants for the homestead considering planting, pruning, and pest control methods.	X
022. Identify, describe, and perform harvesting and handling methods of fruits and nuts for home use.	X
023. Identify and select appropriate floral plants for the homestead based upon their appearance and use.	X
024. Incorporate flowers into the homestead and maintain properly.	X
025. Identify and select appropriate house plants for the homestead.	X
026. Grow and maintain house plants.	X

Agricultural Education
Course Number 7091 - Homestead and Gardening Skills

COMPETENCY STATEMENT	Core (X)
D. Homestead and Gardening Mechanics	
Tools	
027. Identify tools needed in the homestead and garden.	X
028. Demonstrate the safe and correct use of homestead and gardening tools.	X
029. Demonstrate the safe and correct procedure for maintenance and storage of hand and power tools.	X
Lawn Mowers	
030. Determine the proper size and type of lawn mowers for various lawn needs.	X
031. List five safety rules for lawn mower use.	X
032. Demonstrate the correct use of lawn mowers.	X
033. Perform basic lawn mower maintenance jobs.	X
034. Prepare and properly store a lawn mower.	X
Garden Tractors and Tillers	
035. Determine the proper size and type of garden tractors and tillers for various garden needs.	X
036. List five safety rules for garden tractors and tillers.	X
037. Demonstrate the correct use of garden tractors and tillers.	X
038. Perform basic maintenance on garden tractors and tillers.	X
039. Describe the proper storage of a garden tractor and tiller.	X
Electricity	
040. Define the meaning and describe the use of basic electrical terms.	X
041. Acquire basic safety procedures for working with electricity.	X
042. Select electrical repair parts and appropriate tools.	X
043. Make basic home and electrical repairs.	X
Sprayers, Dusters, and Granular Applicators	
044. Determine the proper type and size of sprayers, dusters, and granular applicators for various home and garden needs.	X
045. Demonstrate the safe and proper use of sprayers, dusters, and granular applicators.	X
046. Adjust and calibrate sprayers, dusters, and granular applicators.	X
047. Make minor repairs and perform maintenance jobs on sprayers, dusters, and granular applicators.	X
Plumbing	
048. Describe the procedures for handling and repairing emergency plumbing problems.	X
049. Select correct plumbing repair parts.	X
050. Repair or replace faucets and water hoses.	X
051. Open clogged drains.	X

COMPETENCY STATEMENT	Core (X)
Carpentry Repairs	
052. Make a simple drawing of a construction project.	X
053. Prepare a bill of materials for a construction project.	X
054. Construct trellises and other simple projects.	X
055. Select materials needed to make repairs.	X
056. Make minor repairs to doors, windows, furniture, etc.	X
Concrete	
057. List the advantages of concrete for specific areas around the home such as walks, drives, porches, and posts.	X
058. Calculate the amount of concrete needed for specific jobs.	X
059. Identify the most economical way to purchase concrete for a given task.	X
Fences and Gates	
060. Identify and determine the different types of fences and gates that homeowners can install and types best for contractors to install.	X
061. Describe the correct procedure for installing simple fences and gates.	X
Paints	
062. Describe conditions where paint is needed.	X
063. Describe the difference between the types of finishing materials and determine which one is needed for a specific job.	X
064. Prepare surface for finishing.	X
065. Apply paint, stain, and varnish safely and properly.	X
066. Clean and store brushes and rollers properly.	X
E. Home Safety	
067. Demonstrate basic first aid skills.	X
F. Home Gardens	
068. Identify five values of the home garden.	X
069. Draw a plan for the home garden based on family size, crop preferences, and plant varieties.	X
070. Select the proper site for home garden.	X
071. Take soil samples and describe utilization of results.	X
072. Select and obtain seeds and plant material.	X
073. Prepare the seedbed.	X
074. Seed, transplant, fertilize, and cultivate garden plants.	X
075. Identify and control garden insects.	X
076. Identify and control garden diseases.	X

COMPETENCY STATEMENT	Core (X)
077. Identify and control garden weeds.	X
078. Irrigate garden plants properly.	X
079. Identify and describe harvesting methods.	X
080. Describe storing and marketing practices.	X
081. Compare and contrast commercial and home vegetable production.	X

UNITS OF INSTRUCTION

Unit I. General - Agriculture/Agribusiness

Unit II. FFA and SOEP (Leadership Development)

Unit III. Homestead Planning

Unit IV. Homestead and Gardening Mechanics

- A. Tools
- B. Lawn Mowers
- C. Garden Tractors and Tillers
- D. Electricity
- E. Sprayers, Dusters, and Granular Applicators
- F. Plumbing
- G. Carpentry Repairs
- H. Concrete
- I. Fences and Gates
- J. Paints

Unit V. Home Safety

Unit VI. Home Gardens

COURSE: 7091 Homestead and Gardening Skills 7

UNIT TITLE: I. General UNIT LENGTH: 10 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
001. Identify the major areas in the agriculture/agribusiness industry.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

001. a. identify the major areas of the agriculture/agribusiness industry.
     b. identify the objectives of vocational agriculture.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Introduction to Agriculture Definitions Agriculture Vocational Agriculture Agribusiness Production Agriculture Objectives of Vocational Agriculture Importance Agriculture Vocational Agriculture	1. Use TRSP 7000-OG-9 as a basis for discussing definitions of agriculture. 2. Have students discuss agriculture in the local community, types of skills involved, income, etc. 3. Lead students in making a list of all agricultural enterprises in the community. List their contributions to the community and the nation. 4. Use text Exploring Agribusiness as background information for discussing agribusiness aid to the agricultural producer. 5. Show the film, "Agriculture USA." Discuss the importance of agriculture. 6. Use TRSP 7000-OG-10 to develop a rationale for studying vocational agriculture.	33, 35, 36, 37, 57
Relationship of Agriculture and Agribusiness Agricultural Production Farmers Farm Organizations Markets	1. Use film, "Agriculture Unlimited." Discuss the contributions of agribusiness in our American society. 2. Guide students in identifying major areas of agriculture and agribusinesses.	144, 148, 149, 150, 151, 152

COURSE: 7091

UNIT TITLE: I. General

UNIT LENGTH: 10 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
002. List six ways agriculture is important to the economy of the state and nation.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

002. describe the importance of agriculture in the economy of the state and nation.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Importance of Agriculture on the Economy Definitions Fiscal policy Inflation Deflation Depression Gross National Product Purchasing Alternatives co-op private pool purchasing agribusiness industries other Types of Markets co-op wholesaler private direct to consumer auction pool marketing other Effects of Agriculture on the Economy Local State National	1. Acquire a resource person to speak to the class on the "Effects of Agriculture on the Local and State Economy." 2. Challenge students to prepare a bulletin board on the "Effects of Agriculture on the Local and State Economy." 3. Familiarize students with the sources of farm market reports and their use. 4. Use TRSP 7000-EC-1 and 2 to help define terms. 5. Arrange a field trip to an FCX or other agribusinesses to observe the way business operations are performed. 6. Secure a speaker from the Farm Production Credit Association to speak to the class on "The Economics of Agriculture."	152, 154, 155, 156, 157, 160, 161

COURSE: 7091

UNIT TITLE: I. General

UNIT LENGTH: 10 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
003. Identify five factors that have an influence on agriculture. 004. Trace farm products in the area from the farmer to the consumer and identify cost factors in each area.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

003. explain factors which have an influence on agriculture.
004. identify where farm products originate and follow their path to the consumer.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Factors Influencing American Agriculture Gross National Product - Economy Definitions Influence on agriculture Agriculture's share Planning index Relationship to agriculture Human Resources - Labor Types, amount and kind Contributions by labor Effects on agriculture Natural Resources List of resources Kinds and types Contributions to agriculture-uses Resources and the economy Weather Rain Drought Other Energy Resources Petroleum products Coal and wood Solar energy Other	1. Use TRSP 7000-EC-4 as a basis for discussing definitions, especially the meaning of GNP. 2. Use TRSP 7000-EC-5 to clarify definition of terms. 3. Initiate a class discussion on "The Effects of Human Resources on Modern Agriculture." 4. Use classroom committees to identify and describe Natural Resources and how they become economic factors in agriculture. 5. Visit and study the structure and purposes of a fertilizer mixing plant. 6. Listen and analyze the daily weather forecast. 7. Visit an irrigation dealership to determine types of equipment, cost of acquisition and use. 8. Have a speaker from the Employment Security Commission present to the class the influence of the labor force on agriculture.	148, 150, 157, 160, 161
Grower to Consumer Marketing and/or Purchasing Farmer's Market Wholesaler Independent dealers Packing companies Auctions Retail groceries Transporting Truck Rail Air Water	1. Visit a variety of enterprises conducted by farmers. 2. Visit a farm product processing plant. 3. Have each student visit a grocery store and make a report on "The Handling of Farm Products." 4. Read and discuss several product reports. 5. Visit a local Farmer's Market and list products produced within the local area. List those produced out of the state. 6. Read current events on consumer products and pricing practices. 7. Visit and study the psychology of auctions as they influence the marketing of farm products.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
	8. Interview a trucker or other person who transports farm products. Discuss the delivery of highly perishable products in contrast to nonperishable.	

COURSE: 7091

UNIT TITLE: I. General

UNIT LENGTH: 10 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
005. Identify and discuss major reasons why Agricultural Education is important.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

005. understand and explain the importance of Agricultural Education.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Importance of Agricultural Education Avenue and Basic to: preparation for farming preparation for a career in agri-business understanding agriculture in our society Basic to Continuing Education for: adult farmers and part-time farmers post-high school foundation Contributes to the Preparation of: agricultural instructors (high and post-high school) extension agents loan officers researchers other	1. Conduct an exploratory visit to the Employment Security Commission office to acquire information on the labor demand for agricultural workers. 2. Instruct each student to visit or acquire information from the Land-Grant College providing Agricultural Education training. Determine avenues of employment derived from a completed program. 3. Schedule an extension agent for a presentation on the nature of their work. 4. Acquire a bank farm loan representative to discuss requirements for loans for land purchases, farm equipment and production enterprises. 5. Ask each student to read and report on a magazine or newspaper article dealing with new ideas, inventions, crop varieties, etc. related to agriculture.	160, 161

COURSE: 7091 Homestead and Gardening Skills

UNIT TITLE: II. FFA and SOEP (Leadership Development) UNIT LENGTH: 15 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
006. Identify the history and structure of the FFA organization. 007. Identify six aims and purposes of the FFA. 008. Identify six activities to be included in a local FFA program of activities that will help meet individual chapter, school, and community needs. 009. Conduct a business session using recommended parliamentary procedures.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

006. demonstrate a knowledge of the FFA history and its structure.
007. identify the aims and purposes of the FFA.
008. describe the different functional committees of the FFA.
009. demonstrate the ability to preside over a chapter or committee business session.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Introduction to FFA Importance Definitions Values Contributions Achievements Leadership contributions FFA Organization History formation organization Structure officers duties stations aims and purposes heritage colors motto emblem creed degrees membership local chapter	1. Use Student Handbook, Official FFA Manual and Advisor's Handbook. Have students develop an awareness of the FFA organization. 2. Have current officers discuss with class local chapter membership values. 3. Request that a former member, who made an outstanding record while a member, discuss with the class the values of being a member of FFA. 4. Invite a local leader to lead class discussion on values of FFA to community. 5. Have students develop a working knowledge of the FFA organization. 6. View "Learning and the Land-Fifty Years of the FFA" in studying the history of the FFA. (16mm film) 7. View "Convention Time: That Special Feeling" (Vernard Films).	33, 34, 35, 38, 39, 40, 47, 48, 49, 50, 138, 139
Aims and Purposes of FFA Leadership Cooperation Citizenship	1. Provide students access to FFA Manuals to develop an understanding of the FFA's aims and purposes. 2. Have students demonstrate knowledge of the goals for FFA. 3. Attend Federation, District, or State FFA Leadership Schools.	
FFA Program of Activities Officers Committees Standing Appointed Responsibilities	1. Give each student a copy of the Chapter's Program of Activities. 2. Invite chapter or state officer to speak to class on the "Program of Activities and Its Value." 3. Have students examine the committee functions as explained in the Student Handbook.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
	4. Have students identify six activities included in the Program of Activities. 5. Require each student to be a member of a standing committee. 6. Invite a banker to speak to class on savings, investments and loans. 7. Plan recreational activities for chapter meetings. 8. Have former scholarship award student discuss with class the importance of scholarship achievement in agriculture. 9. Inform students of available agriculture scholarships. 10. Invite alumni member to discuss the value of Supervised Occupational Experiences.	
Leadership Development Parliamentary Procedure Define Parliamentary Procedure Why Use It? create order shorten meetings allow everyone to present their views conduct meetings in orderly fashion Ability Demonstration Simple motion of business Motion and one amendment Appeal the decision of the Chair Division of the House Point of order Lay on the table Motion to adjourn Refer to a committee Motion to reconsider Take from the table Suspend the rules Change chairperson's station Motion with two or more amendments Stop discussion and vote on the question Public Speaking Speech preparation Presentation Voice Questions	1. Have students discuss how they think a meeting would proceed without parliamentary procedure. 2. Listen to a tape of former FFA Parliamentary Procedure teams and discuss the abilities performed. 3. Have students tell how six abilities are used in a meeting. 4. Let students demonstrate abilities by conducting mock meetings, allowing all students to hold officers' positions. 5. Use correct parliamentary procedure in all meetings. 6. Provide each student the opportunity to preside over a meeting in the classroom. 7. Assist each student in the preparation of a five minute speech. 8. Listen to national speaking contest winning speeches on tape. 9. Have students do both prepared and/or extemporaneous speeches.	
Contests Fact-to-Face Proficiency Records	1. Encourage each member to participate in face to face contests: Nursery Landscape and Floriculture. 2. Encourage each member to participate in proficiency records: a. Home and Farmstead Improvement b. Fruit and Vegetable Production c. Turf and Landscape Management	

COURSE: 7091

UNIT TITLE: II. FFA and SOEP (Leadership Development) UNIT LENGTH: 15 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
010. Plan and implement a supervised occupational experience program (SOEP). 011. Maintain appropriate records on each type of supervised occupational program.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

010. a. present a knowledge and understanding of the importance of SOEP.
     b. plan and expand a personal SOEP.
011. Demonstrate Supervised Occupational Experience Program record keeping.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Importance of Supervised Occupational Experience Programs Develop Responsibility Develop Skill Expand Personal Qualities Serve As A Source of Income Types of SOE Programs Exploratory Improvement Supplementary Ownership Placement Location of SOEP Activities Home and/or farm School-related Increasing scope on an SOE program financing increased value educational financial	1. Conduct a class discussion on importance of and values to be derived from SOEP. 2. Conduct an exploratory visit to the farm or business of an alumni member. 3. Require each student to make an exploratory visit. 4. Have students plan and initiate their SOEP. 5. Divide students into three groups. Assign groups to determine SOEP activity possibilities at home, school, or in the community. Entertain reports to the class by each student. 6. Invite a resource person to speak to class on economics and the financing of SOEP projects. 7. View "Vo-Ag/FFA-Educating" slides. 8. View "SOEP-Bridging the Gap." (film by Vernard)	
Supervised Occupational Experience Program Record Keeping Types of Records for SOE Program Exploratory visits Production agriculture Work experience Improvement and supplementary Achievable Proficiency Awards	1. List on the blackboard the types of records usable for each SOE program. 2. Give each student an SOEP record keeping book. 3. Have students with SOE programs already established share their past records. 4. Have students record each type program in which they participate. 5. Invite loan officer into class to explain various terms of lending available for students. 6. Have students in class practice record keeping with hypothetical accounts. 7. Ask Proficiency Award winner or American Farmer to speak on SOEP.	35, 37, 49, 50, 51, 52, 53, 140, 141, 145, 146, 147

COURSE: 7091 Homestead and Gardening Skills

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
012. List the factors to consider in planning the homestead site.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

012. consider various factors in planning a homestead site.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Family Factors Needs Interests Neighbors Schools Churches Cost Site Selection Elevation and Topography Views Physical Characteristics Shade Sun Exposure Direction Considerations Prevailing Winds Utility Adaptation of House to the Grounds Location of Out Buildings Cautions (preventing added on appearance) Neighborhood Utilities Zoning Regulations Highways Shopping Facilities Industrial Areas	1. Students discuss with parents why they chose their present site. 2. Assign students an interview with a real estate agent to consider factors that influence selection of a homestead site. 3. Guide students in drawing and laying out a homestead plan. 4. Take a field trip into a housing development to discuss the advantages and disadvantages of each site.	51, 52, 54, 56, 58, 61, 65, 69, 70, 71, 73, 75, 76, 80, 89, 90, 93, 107, 116, 143, 152

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
013. Identify the components and draw a plan for the homestead considering the physical factors of the homestead site.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

013. a. recognize and use drawing instruments.
b. read and understand a landscape plan.
c. design a landscape plan including public, private, and service areas.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Landscape Drawing Drawing Instruments T-square Compass Protractor Triangle Scale Pencil	1. Have students explain the function of each drawing instrument. 2. Provide exercises for students using each of the tools. 3. Acknowledge the difference in pencil leads for drawing. 4. Give students exercises on reading a ruler and scaling. 5. Have drafter speak to students on tool use.	49, 50, 51, 52, 54, 56, 58, 61, 65, 66, 69, 70, 71, 72, 73, 74, 75, 76, 77, 80, 81, 82, 89, 90, 91, 93, 97, 107, 116, 117, 118, 119, 120, 121, 122, 129, 134, 135, 136, 143, 152
Landscape Symbols Needled evergreens Deciduous evergreens Deciduous trees Broadleaf evergreens Vines and ground covers Construction materials	1. Exhibit to students live specimen of each of the materials and symbols needed. 2. Have students practice drawing symbols. 3. Have students illustrate symbols for plant beds and masses. 4. Have landscape symbols available for students' viewing.	
Symbol Scaling Scale Compass	1. Show transparencies OH.16 - OH.23. 2. Establish a scale and have students draw landscape symbols to scale. 3. Display a completed landscape plan drawn to scale for student observation. Discuss the plan. 4. Using transparency, demonstrate to students how to interpret a landscape plan. 5. Give each student a completed plan along with questions about the plan for interpretation.	
Landscape Plan Plotting Plot Plan Property lines, houses, buildings Utilities	1. Show filmstrip, "Principles of Landscaping" at appropriate times. (Prentice-Hall) 2. Invite landscape architect to speak to class on landscape planning and design. 3. Let each student have access to drawing board and tools. 4. Have students begin landscape plan by plotting property lines, etc.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
	5. Have students include utilities such as wells, utility poles, cables, etc. which might influence landscape.	
Site Analysis Sun/shade Wind Views Soils	1. Have students note on plan the location of their house in reference to sun. 2. Discuss the importance of considering natural factors when planning.	
Family Needs Family activities Maintenance work Access to house	1. Have students list the personal needs of their family which might influence the landscape. 2. Have students acknowledge access routes to house, family recreation area, etc.	
Use Areas Public Area Front yard driveway width direction fences walks lawns Public access garage front entry service entry private areas Height and width of house Simplicity maintenance attractiveness Proper background Accents and foreground foundation plantings corner plantings	1. Discuss where the public area is located and its function in the landscape plan. 2. Have students mark the public area on their landscape plan. a. Sketch dimensions of house and outside buildings on plan. b. Draw driveways and sidewalks. 3. Show transparencies 630/00/1 - 630/00/12 VECM (Clemson). 4. Show comparative designs of public areas exemplifying the right and wrong ways of landscaping. 5. Have students fill in the rough drawing with foundation, screen, border, and specimen planting.	
Private Area Purpose rest relaxation entertainment Location Outdoor living Open lawn area Privacy fences hedges screens	1. Have students study the landscaping needs of the private area. 2. Using landscape plan, fill in the private area with appropriate plant specimens and make notes on key. 3. Provide classroom references for study. 4. Provide completed landscape plans for students to follow.	
Service Area Location Utility Play area Garden	1. Have students note service area and parts of it on plan. 2. Discuss the scope and functions of this area.	

COURSE: 7091

UNIT TITLE: III. Homestead Planning UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
014. Identify and select lawn grasses and ground covers.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

014'. select grasses and ground covers for the lawn.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Lawn Grasses Tolerances Heat Cold Sun Shade Moisture Soil Characteristics Drainage Warm Season Grasses Common Bermuda St. Augustine Centipede Carpet Grass Zoysia Other Cool Season Grasses Kentucky Bluegrass Red Fescue Kentucky 31 Tall Fescue Chewing Fescue Ryegrass Crab Other Ground Covers Evergreen Junipers Periwinkle Pachysandra Ajuga Lirope Ivy Other Decidious Coralberry Broom Forsythia Other Flowering Periwinkle Ajuga Lirope Honeysuckle Forsythia Santolina Other	1. Take a field trip to a local garden center and acquire recommendations for types of grasses and ground covers used in landscaping. 2. Use magazines and extension bulletins in the classroom as resource materials. 3. Visit local nurseries to study ground covers used in the landscape. 4. Plant test plots of grass to observe which grasses perform best for your geographical area. 5. Learn to identify at least 20 different varieties of grasses and ground covers. 6. Grow test plots of specific ground covers for experimental purposes. 7. Visit the County Extension Chairman's office with students to acquire pamphlets on selecting lawn grasses and ground covers.	51, 52, 54, 55, 56, 58, 59, 62, 63, 65, 66, 68, 69, 71, 73, 75, 76, 80, 89, 90, 94, 97, 107, 129, 136, 143

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Height Sun Tolerance Shade Tolerance Propagation Seed Cuttings Division Other		

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
015. Establish the home lawn.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

015. a. plan the home lawn.
 b. prepare the home lawn.
 c. establish the home lawn.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Planning the Lawn Determining the lawn area Assessing the lawns area to sun and shade Determining moisture availability and sources of wate Conserving the topsoil during home construction Estimating lawn establishment costs Grading and Drainage Topsoil removal Grading and slope Protecting trees and plants Preparing the Seed Bed Organic content Soil pH Applying fertilizer Raking and leveling Seeding Procedures Applying seed Rolling Mulching Watering Establishing Alternative Lawns Sprigs - Bermuda Stolons - Centipede Phigs - Zoysia Sod - Variable Varieties	1. Visit the site of a new home and observe lawn grading and preparation. 2. Take a soil sample of your home lawn or a neighbors. 3. Observe a landscaping crew at work and interview them for information on lawns. 4. Make test plots on the school grounds using sprigs, stolons, phigs and sod of a variety of grasses. 5. Draw a plan of your home lawn area, indicating water lines, power lines, etc. 6. Visit a fertilizer plant or garden center to acquire recommendations for fertilizing and maintaining a lawn. 7. Acquire a school or home area to provide students experiences in lawn preparation and seeding.	22, 30, 31, 45, 51, 52, 56, 58, 59, 63, 65, 66, 68, 69, 71, 73, 75, 76, 80, 83, 89, 90, 94, 97, 99, 107, 116, 129, 143, 152

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
016. Schedule and perform lawn maintenance duties including fertilization, mowing, and pest control.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

016. a. perform correct lawn maintenance duties.
  b. fertilize lawn.
  c. mow a lawn
  d. control lawn pests.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Fertilizing Correct kinds and amounts Application recommendations Organic fertilizer Plant food elements Nitrogen Phosphorus Potassium Other Watering Natural Irrigation Raking (Types of Rakes) Thatch removal Leaf removal Aerating Compaction prevention Movement of air and fertilizer Mowing Frequency Height Disposal of clippings Types of Mowers Push Rotary blade Reel Monofiliment Riding Rotary blade Gang reel	1. Visit a local fertilizer dealer to acquire information on different analyses used for lawn grasses. 2. Visit a local garden center to study tools used for lawn maintenance. 3. Examine tool catalogs in class to observe and make selection of lawn tools needed for the school. 4. Borrow or rent a thatcher and aerator for student use on school or home lawn. 5. Analyze various lawn mower types in a local sales center and consider their cost and use for different size lawns. 6. Establish test plots of several lawn grasses under different water and nutrient conditions. 7. Study irrigation system brochures, etc. on systems for irrigation of lawns.	22, 45, 51, 52, 54, 55, 56, 58, 59, 63, 66, 68, 69, 71, 73, 75, 76, 80, 83, 84, 86, 89, 99, 107, 118, 129, 136, 143
Obnoxious Weeds and Grasses Annuals Perennials Broadleaf weeds Grasses	1. Visit a local seed store or garden center to study herbicides sold for undesirable weeds and grass control. 2. Identify at least ten specific weeds detrimental in lawns.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
	3. Make applications of herbicides on school lawn plots infested with undesirable weeds and grasses.	
Weed and Grass Control Herbicides Preemergence Postemergence Contact Herbicides Systemic Herbicides Tillage Manual Management	1. Give students experiences in safe use in applying herbicides and insecticides with different types of applicators. 2. Establish a test plot to control crab grass in fescue with a preemergence treatment.	
Other Kinds of Insects and Pests Insects Chewing Sucking Grubs Nematodes Rodents Birds	1. Visit a garden center to identify insecticides used to control undesirable lawn insects. 2. Prepare a collection of insects that are harmful to lawns.	
Composition of Pesticide Materials Dusts Weltable powders Emulsified concentrates Granules Baits Aerosols Fumigants Repellants Attractants	1. Study labels for descriptions of a variety of pesticide materials. 2. Observe safety precautions in using them for controlling insects and diseases in the school and home greenhouse and plants in the home landscape.	

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
017. Identify and select appropriate shrubs and trees for the homestead based upon their appearance and use.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

017. a. identify at least fifty trees and shrubs used for home landscaping in North Carolina.
b. select appropriate shrubs for areas of landscaping.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Identification Vines and Ground Covers Classification deciduous semievergreen flowering/nonflowering Growth habits banks houses shade artificial shade natural shade trellises, fences, walls	1. Have live specimens of vines and ground covers available for students to learn for identification. 2. Show slides of plant materials and their use in the landscape. 3. Have students do a comparative chart of vines and ground covers. 4. Have students learn at least five vines and ground covers. 5. Show filmstrip from the Ornamental Horticulture kit on "Lawns and Ground Covers" (VEP). 6. Collect leaves or twigs from identification specimens and laminate.	22, 45, 61, 65, 66, 67, 69, 70, 71, 72, 73, 74, 75, 76, 77, 80, 81, 82, 85, 87, 89, 90, 91, 93, 94, 97, 107, 116, 117, 118, 119, 120, 121, 122, 129, 131, 134, 135, 137, 143, 152
Ornamental Shrubs Classification deciduous evergreen broad-leaved conifers Use foundation border hedge screen beauty Size 1-4 feet 4-6 feet 6-12 feet Form upright vs spreading formal vs informal Texture fine medium coarse leaf distribution	1. Have live specimens available for student learning activity. 2. Have students do a comparative chart on shrubs for study. 3. Have students learn at least thirty shrubs used in home landscape. 4. Visit local nursery. 5. Collect leaf or twig specimens and laminate.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Color		
leaf bark fruit		
Culture		
sun/shade soil		
drainage fertility		
pests		
insects diseases		
growth rate pruning		
topiary espalier formal/informal		
moisture		
low medium high		
Trees	1. Take students on a field trip to local tree farm or state park to identify trees.	
Classification		
evergreen	2. Have students learn at least fifteen trees for identification.	
broadleaf conifers	3. Have students do a comparative chart on trees.	
deciduous	4. Collect leaves for study.	
Use	5. Show and explain to students USDA plant hardiness zone map.	
protection screen shade frame background		
Size		
small large		
Form		
wide/oval vase pyramidal round columnar weeping		
Texture		
fine medium coarse leaf distribution		
Color		
leaf bark fruit		

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Culture sun/shade soil drainage fertility pests insects diseases growth rate pruning topiary espalier formal/informal moisture low medium high		
Selection Bare root	1. Exhibit three different methods of transplanting plants and compare effectiveness.	
Advantages Disadvantages	2. Discuss the advantages and disadvantages of each method.	
Containerized	3. Have students select plants which transplant best by each method.	
Advantages Disadvantages	4. Have students transplant bare root, bagged and balled, and container specimens.	
Balled and Burlapped		
Advantages Disadvantages		

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
018. Plant shrubs and trees properly for the homestead site.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

018. a. plant shrubs and trees correctly.
- b. choose the correct season for planting.
- c. prepare soil according to recommendations for specific plants.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Selection of Shrubs and Trees Purchasing Nursery Garden center Mail order Native Neighbor Inspection Branches spacing growth Pruning cuts Root system Container size Label Overall health	1. Visit a local nursery or garden center to inspect plants for possible purchasing. 2. Compare and discuss plant specimens at a nursery. 3. Provide mail order catalogs for students to practice selecting stock.	46, 52, 54, 56, 61, 65, 66, 69, 70, 73, 74, 75, 76, 80, 82, 83, 87, 90, 91, 93, 97, 107, 117, 118, 119, 120, 121, 122, 134, 135, 143, 152
Site Selection Soil Sun/shade Wind direction	1. Have students consult hardiness zone map and find plants for their area. 2. Have students list factors to consider when selecting a tree or shrub.	
Preparation Conditioning Drainage Hole size Tools shovel trowel crowbar spade	1. Use soil sample analysis as guide in planting. 2. Have students use each of the tools in preparing a site. 3. Identify tools.	
Installation Time/season Digging the hole Adding nutrients Filling holes Basin formation Staking	1. Discuss the appropriate time for transplanting. 2. Discuss what nutrients might be needed. 3. Demonstrate the planting of both a tree and a shrub.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Post-Transplant Care Prune One-quarter to one-third Anti-transpiration Tree Wrap Water	1. Have students follow-up their plantings with posttransplant care. 2. Have students prune a shrub or tree after planting.	

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
019. Perform shrub and tree maintenance activities, including fertilization, pruning, and pest control.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

019. a. apply fertilizer.
b. prune a shrub or tree.
c. control pests on shrubs and trees.
d. stake and guy wire one or more trees.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Fertilization Soil Test Take soil samples Analyze results Follow recommendations	1. Take soil samples or look at recommendation sheet from earlier samples. 2. Provide each student with a test result copy. Discuss and analyze results. 3. Exhibit different soil types.	22, 30, 31, 45, 51, 52, 54, 56, 58, 59, 61, 62, 63, 65, 66, 69, 70, 73, 75, 76, 80, 84, 85, 90, 94, 107, 112, 114, 115, 125, 126, 127, 143, 152
Types Slow release Readily available Macronutrients (N-P-K)	1. Have students bring fertilizer labels to class and discuss differences. 2. Exhibit samples of various fertilizers for student comparison. 3. Discuss the differences in fertilizers.	
Components Macronutrients complete fertilizer incomplete single carrier Micronutrients	1. Read and interpret analysis labels from bags of complete and incomplete fertilizer. 2. Work problems associated with soil test reports.	
Deficiency Symptoms	1. Show slides on plant nutrient deficiencies. 2. Observe plants with nutrient deficiencies.	
Application Methods Broadcast Band Foliar	1. Display different types of fertilizer applicators and distributors. 2. Provide each student with the opportunity to apply fertilizer.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Pruning	1. Discuss different effects and purposes of pruning.	
Styles	2. Show students slides on styles of pruning.	
Natural look Formal effect Topiary Espalier	3. Visit local places which exhibit styles of pruning.	
Tools	1. Display all tools for student observation.	
Pruning shears Hedge trimmers Hedge shears Lopping shears Pruning saw Pole saw	2. Have students demonstrate the use of each pruning tool.	
Types	1. Demonstrate each type of pruning.	
Heading back Thinning Pinching Shearing	2. Show filmstrip on pruning. (VEP)	
Shrubs and Trees	1. Discuss the importance of pruning time.	
Evergreen shrubs	2. Have students prune at least one shrub and tree.	
amount when where		
Deciduous shrubs		
amount when where spring/summer flowering		
Ornamental trees		
amount when where		
Coniferous evergreens		
amount when where		
Root	1. Demonstrate root pruning on container plants and one for transplanting.	
Why How Amount	2. Discuss reasons for this method.	
Pest Control		
Insects	1. Show students slides on insects.	
Types	2. Make North Carolina Agriculture Chemical Manual available for student use.	
chewing sucking, piercing nematodes	3. Instruct students in manual use.	
Beneficial and harmful Control	4. Using manual, have students determine control method for pest problems.	
Organic Inorganic		

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Diseases Categories fungi bacteria viruses environment Transmission soil water wind seed vegetative propagation mechanical insects Symptoms abnormal growth abnormal color abnormal shape wilting Controls sprays dusts drenches Weeds Types broadleaf narrow leaf other Controls sprays granular mechanical	1. Provide references of plant diseases for classroom study. 2. Have students bring in diseased plants for diagnosis. 3. Have students demonstrate pest control methods in the greenhouse or on the school grounds.	
Guying and Staking Trunk Protection Trunk Support Anchor Support for Roots	1. Have students plant a tree and stake and guy it. 2. Give reasons for staking and guying a tree.	

UNIT TITLE: III. Homestead Planning UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
020. Select fruit and nut plants for home use. 021. Establish and maintain fruit and nut plants for the homestead considering planting, pruning, and pest control methods.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

020. choose specific fruit and nut plants.
021. establish and maintain fruit and nut plants for the homestead.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Plant Selection Fruit Trees Apples Peaches Pears Plums Cherries Small Fruits Blueberries Strawberries Raspberries Blackberries Grapes Other Nuts Walnuts Pecans Almonds Chestnuts Other Maintenance Pruning Central leaders Modified central leaders Open center Root pruning Planting and Related Information Bare rooted plants Balling and burlapping Heeling in Staking Grafting Other Insects, Pests and Diseases Identification of Selection of control materials Application	1. Establish a school orchard/vineyard. 2. Visit a garden center to identify plants available for local planting. 3. Select a list of fruit and nut plants from a catalog to order for orchards and vineyards. 4. Acquire experiences in pruning fruit and nut plants in the school orchard or in the community. 5. Dig, ball and burlap evergreen plants. 6. Transplant evergreen shrubs. 7. Dig bare rooted plants and transplant them to other sites. 8. Heel in plants for use in later plantings.	22, 45, 51, 54, 55, 56, 58, 61, 69, 74, 76, 80, 81, 82, 83, 84, 86, 87, 93, 107, 112, 114, 115, 116, 119, 124, 125, 126, 131, 134, 152, 153

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
022. Identify, describe and perform harvesting and handling methods of fruits and nuts for home use.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

022. harvest and prepare fruits and nuts for home use.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Harvesting Mechanical Hand	1. Students determine ways for harvesting fruits and nuts.	51, 55, 56, 60, 65, 66, 69, 76, 85, 86, 93, 105, 106, 107, 132, 153
	2. Visit fruit and nut enterprises to determine readiness for harvesting the product for local market and shipping.	
Timing the Harvest Optimum sugar content Proper maturity Time of day	3. Invite a home economist to speak to the class on the preservation of fruits and nuts for home use.	
	4. Visit and study marketing in a farmers' market.	
Storing and Packaging	5. Compare grocery prices of fruit and nut products with those of home preserved produce.	
Advertising	6. List different ways to advertise price and distribute fruits and nuts.	
Pricing	7. Provide laboratory experiences on picking, cleaning, freezing, canning and preserving fruits and nuts.	
Marketing Industrial Roadside Farmers' market Picking your own Co-op Peddling	8. Challenge each student to design an advertisement for selling fruits or nuts.	

COURSE: 7091

UNIT TITLE: III. Homestead Planning

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
023. Identify and select appropriate floral plants for the homestead based upon their appearance and use. 024. Incorporate flowers into the homestead and maintain properly.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

023. a. identify annual, biennial, and perennial floral plants for the homestead.
     b. select appropriate plants for the homestead.
024. a. install flowers in the homestead.
     b. maintain flowers in the homestead.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Floral Plants Annuals Definition Direct seeding Bedding plants Examples Biennials Definition Examples Perennials Bulbous tender hardy Corm Tuber Herbaceous Examples	1. Have students sow seeds for annuals, transplant seedlings, and incorporate plants in home landscape. 2. Discuss the differences between annuals, biennials, and perennials. 3. Have students plant bulbs, corms and tubers. 4. Identify twenty different flowers for the homestead.	30, 51, 52, 54, 56, 58, 65, 66, 67, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 85, 86, 89, 90, 99, 107, 112, 113, 116, 123, 126, 127, 130, 131, 137, 143, 152
Plant Use Flower Beds Location Colors Size Flowering time	1. Demonstrate making a flower bed. 2. Have students draw a plan for a flower bed and implement the plantings.	
Flower Borders Background Visual attraction Design Flowering time	1. Have students draw a plan for a border planting. 2. Have students prepare and make border plantings.	
Maintenance Water Mulch Weeding Fertilizer Pruning	1. Have students maintain the beds and border plantings. 2. Have students determine the amount and kind of fertilizer needed around homestead flowers.	

UNIT TITLE: III. Homestead Planning UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
025. Identify and select appropriate house plants for the homestead. 026. Grow and maintain house plants.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

025. a. identify appropriate house plants.
     b. select appropriate house plants.
026. a. grow house plants.
     b. maintain house plants.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Identification Foliage Leaf shape Leaf color Leaf arrangement Environment Water Temperature Light Use Room divider Screen Accent Maintenance Soil Sterile Aerated Drainage Fertility Organic matter Water Quantity Time Quality Humidity Light Direct Filtered Shade Artificial Tolerance Temperature Cool Warm	1. Identify 20 house plants for the home. 2. Grow house plants for sale. 3. Have students mix proper potting soil mixes for various house plants. 4. Have students select house plants according to certain needs of their home. 5. Provide students opportunities to demonstrate proper ways of pruning plants. 6. Have students propagate house plants. 7. Have students start house plants from seeds. 8. Visit local greenhouse operations to see commercial production of house plants. 9. Conduct experiments with varying environmental conditions to see the effect on house plants.	2, 22, 30, 31, 45, 51, 52, 53, 55, 56, 58, 59, 62, 63, 64, 65, 66, 67, 69, 73, 75, 76, 77, 78, 79, 83, 84, 85, 89, 97, 106, 107, 112, 113, 114, 115, 117, 123, 125, 126, 127, 128, 130, 131, 137, 143

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Fertilizer		
Slow release Water soluble Granular		
Pruning		
Pinching Cutting back		
Propagation		
Seed Cuttings Layerage		
Potting and Repotting		
Cuttings Seedlings Pot bound		
Pests of House Plants		
Disease Insects		

COURSE: 7091 Homestead and Gardening Skills

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
027. Identify tools needed in the homestead and garden. 028. Demonstrate the safe and correct use of homestead and gardening tools. 029. Demonstrate the safe and correct procedure for maintenance and storage of hand and power tools.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

027. select the proper tool for the homestead or garden task to be performed.
028. use each tool safely and correctly.
029. a. demonstrate the ability to sharpen and repair hand and power tools.
     b. practice correct maintenance and storage of hand and power tools.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Tools Needed in Homestead and Gardening Identify Tools Required for Task Performance Hand tools Horticulture Mechanics Electricity Plumbing Masonry Woodworking Power tools Horticulture Mechanics Electricity Plumbing Masonry Woodworking	1. Teachers display basic tools for jobs performed in homestead and gardening. 2. Have students match each tool with homestead/gardening task to be performed.	2, 10, 11, 17, 20, 108
Safe and Correct Use of Tools Hand tools Horticulture Mechanics Electricity Plumbing Masonry Woodworking Power tools Horticulture Mechanics Electricity Plumbing Masonry Woodworking	1. Demonstrate basic tool use. 2. Demonstrate and explain proper safety procedures for the use of tools. 3. Provide students opportunities to exhibit proper safety procedures when using tools. 4. Have students practice tool use in actual job settings.	
Maintenance of Tools Sharpening Repair Cleaning and care Storage	1. Instruct students in proper repair and service of hand and power tools. 2. Require students to demonstrate their abilities in proper techniques of sharpening hand and power tools. 3. Teacher have each student clean, oil, and maintain proper working conditions for tools. 4. Teach each student to store all tools according to department requirements.	

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:

030. Determine the proper size and type of lawn mower for various lawn needs.
031. List five safety rules for lawn mower use.
032. Demonstrate the correct use of lawn mowers.
033. Perform basic lawn mower maintenance jobs.
034. Prepare and properly store a lawn mower.

COMPETENCY-BASED TEST ITEMS

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

030. select the size and type of lawn mower for the lawn.
031. list the safety rules for lawn mower operation.
032. use the lawn mower properly and safely.
033. perform maintenance and simple repairs of lawn mowers.
034. properly prepare and store a lawn mower.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Lawn Mower Selection and Purchase Type push riding Size Cost	1. Visit a lawn mower sales operation where different kinds and types of mowers are sold. Make a class report on the information acquired. 2. Match size of mowers with mowing job to be performed.	12, 13, 14, 15, 16, 20, 26, 41, 42, 43, 44, 95, 96, 108. 109. 110, 111
Safety Engine Blades and pulleys Guards Rollovers Lawn preparation	1. Have students demonstrate safety precautions and procedures when using a lawn mower. 2. List possible accidents and accident statistics of lawn mower use.	
Use Basic operation of engines Fuels Compression Ignition Carburetion Lubrication Starting and stopping Mower blade and wheel end pulley adjustments	1. Use TRSP 7000-Ag.M-17 as a basis for discussing the four cycles of a small gasoline engine. 2. Secure a small gasoline engine. Illustrate, explain, and demonstrate the engine's use. 3. Demonstrate ignition, carburetion, compression, fuels, and lubrication of an engine. 4. Have students practice starting and stopping engines. 5. Demonstrate proper adjustment of mower blades, wheels, and pulleys.	
Maintenance Check owners manual Cleaning Oiling Sharpening Simple tune-up Belts and pulleys	1. Perform the following jobs: a. Simple engine check-up using groups of students. b. Oil, grease, adjust engine. c. Clean spark plug/replace if needed. d. Check for proper operation. e. Inspect all moving parts. f. Clean and service air filter.. g. Perform simple repairs. h. Perform twenty-five hour maintenance service. i. Sharpen blades, replace belts and pulleys as needed. j. Draw up maintenance schedule. k. Identify major parts of an engine.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Storage Preparation for Facility for	2. Show slide set, "Start, Stop and Store" (by Briggs and Stratton). a. Demonstrate proper preparation steps for storing a mower. b. Discuss availability of storage facilities.	

COURSE: 7091

UNIT TITLE: IV. Homestead and Gardening Mechanics   UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
035. Determine the proper size and type of garden tractors and tillers for various garden needs. 036. List five safety rules for garden tractors and tillers. 037. Demonstrate the correct use of garden tractors and tillers. 038. Perform basic maintenance on garden tractors and tillers. 039. Describe the proper storage of the garden tractor and tiller.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

035. select the size and type of garden tractor according to garden needs.
036. list the safety rules for various garden tractors and tillers.
037. use garden tractors and tillers properly and safely.
038. perform maintenance and simple repairs on garden tractors and tillers.
039. properly store garden tractors and tillers.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Garden Tractors and Tillers Selection and Purchase Type garden tractor tiller Size Cost	1. Students visit a lawn and garden center where different types of tractors and tillers are sold and report findings to the class. 2. Select proper equipment for the job to be performed.	12, 13, 14, 15, 16, 20, 21, 26, 41, 42, 43, 44, 92, 95, 96, 98, 108, 109, 110, 111
Safety Engine Blades and pulleys Tines Rollover Guards Implements	1. Have students demonstrate safety precautions and procedures for garden tractors and tillers. 2. List possible accidents of garden tractors and tillers. 3. Encourage students and chapter to participate in FFA Safety Program.	
Use Basic operation of engine Fuels Compression Ignition Carburetor Lubrication Starting and stopping Adjustments of wheels, pulleys, tines Implements	1. Secure a small gasoline engine; illustrate, explain and demonstrate its use. 2. Demonstrate ignition, carburetion, compression, fuels, and lubrication of an engine. 3. Have students make adjustments on wheels, pulleys, tines. 4. Have students practice starting and stopping garden tractors and tillers. 5. Have students select proper implements for use with garden tractors and tillers.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Maintenance Check owners manual Cleaning Oiling Tune-up Belts, pulleys, tines Implements	1. Divide students into groups and have them perform the following jobs: a. Simple engine check-up and use. b. Oil, grease, and adjust engine. c. Clean spark plugs and replace if needed. d. Check for proper operation. e. Inspect all moving parts. f. Clean and service air cleaner. g. Perform simple repairs. h. Perform twenty-five hour maintenance check. i. Draw up maintenance schedule. j. Identify major engine parts. k. Service and repair implements used with garden tractors and tillers.	
Storage Clean Store in dry place	1. Demonstrate the use of cleaning materials. 2. Discuss storage facility sites.	

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
040. Define the meaning and describe the use of basic electrical terms. 041. Acquire basic safety procedures for working with electricity. 042. Select electrical repair parts and appropriate tools. 043. Make basic home electrical repairs.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

040. define the meaning and describe the use of the following electrical terms: current, amperes, volts, watts, alternating current, direct current, conductor, insulator resistor, ohms, current cycle and horsepower.
041. list and demonstrate safety precautions when repairing electric cords, switches, receptacles, appliances, and other electrical repair.
042. determine appropriate tools and parts for electrical repairs.
043. perform needed repairs on electrical cords, receptacles, switches and appliances.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Electricity Electrical Terms Current Ampere Volts Watts Kilowatt Alternating current Direct current Conductor Insulator Circuit Cycle	1. Have students use reference books to define electrical terms. 2. Demonstrate the use of electrical formulas for determining watts, volts and amperage.	1, 2, 10, 11, 18, 19, 20, 23, 24, 25, 46
Electrical Tools Voltage and circuit testers Pliers Wire strippers Screw driver Pocketknife	1. Show students electrical tools and demonstrate how to use them. 2. Instruct students in method for testing a circuit for voltage.	
Electrical Materials Electrical wires Switches Receptacles Sockets Panel boxes Fuses Circuit breakers	1. Set up a demonstration board showing common types of wires used in today's homes. 2. Review with students types of switches, receptacles, sockets, panel boxes, fuses, and circuit breakers. 3. Use an electrical panel to demonstrate the use of fuses, circuit breakers, switches, receptacles and how they each are wired.	
Electrical Repairs Electrical cords Receptacles Switches Appliances Fuses Circuit breakers	1. Have students repair broken electrical cords and install plugs. 2. Show students minor electrical repairs which may have to be done on equipment and appliances. 3. Have students install switches and receptacles on an electrical panel.	
Safety Shock hazards Prevention of accidents	1. Review: hazards of electrical shocks, how to avoid electrical shocks and what to do in case of possible accidents.	

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
044. Determine the proper type and size of sprayers, dusters and granular applicators for home and garden needs. 045. Demonstrate the safe and proper use of sprayers, dusters and granular applicators. 046. Adjust and calibrate sprayers, dusters and granular applicators. 047. Make minor repairs and perform maintenance on sprayers, dusters, and granular applicators.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

044. select the proper type and size of sprayers, dusters, and granular applicators to use with various home and garden tasks.
045. safely and properly use sprayers, dusters, and granular applicators.
046. properly adjust and calibrate sprayers, dusters, and granular applicators for different jobs performed.
047. perform maintenance and repair tasks on sprayers, dusters, and granular applicators.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Sprayers, Dusters and Granular Applicators Selection Type manual power driven Size Cost Use of the equipment	1. Show visuals on types of spraying, dusting and granular applicators. 2. Have students visit lawn and garden store and list the types of equipment available.	10, 22, 45, 51, 55, 56, 58, 60, 66, 69, 76, 83, 84, 94, 107, 125
Application Methods dusting spraying fogging granular Basic parts of equipment	1. Demonstrate the use of different types of sprayers. 2. Direct student exercises in the use of different types of sprayers, dusters, and granular applicators.	
Safety Safety equipment respirators clothing Safe use of sprayers, dusters, and granular applicators	1. Demonstrate the different types of respirators. 2. Display proper clothing to use with pesticides equipment. 3. Conduct exercises for the use of different spraying, dusting, and granular equipment.	
Calibration and Adjustment Factors affecting calibration speed pressure nozzle size and opening density of material Methods of application	1. Demonstrate how to calibrate a sprayer, duster, and granular applicator. 2. Have students practice calibrating and using a sprayer, duster, and granular applicator.	
Maintenance, Repair, and Storage Cleaning - before and after use Repair of sprayer parts Lubrication Storage	1. Demonstrate cleaning, lubrication, and storage procedures. 2. Demonstrate simple repair procedures normally required on applicators.	

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
048. Describe the procedures for handling and repairing energency plumbing problems. 049. Select correct plumbing repair parts. 050. Repair or replace faucets and water hoses. 051. Open clogged drains.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

048. analyze and repair emergency plumbing problems.
049. select correct plumbing repair parts.
050. repair or replace faucets and water hoses.
051. clean stopped drains.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Plumbing Problems Leaks Overflows Frozen pipes Water loss Water quality	1. Discuss leaks and cost of leaking water, especially hot water. 2. Explain the drainage system and what causes drains to stop up or overflow. 3. Demonstrate use of a torch to thaw frozen pipes. 4. Have students locate water cut off valves for main supply, sink, lavatories, etc. 5. Require each student to take a water sample to local health department for testing.	2, 10, 11, 20, 29, 99
Tools Wrenches Flaring tools and cutters Torch and accessories Plumbers friend and flexible closet auger	1. Demonstrate the correct use of pipe and other wrenches used in plumbing. 2. Show students how to use cutting, flaring and other plumbing tools.	
Materials Pipes Fittings Faucets Washers and packing Water hoses	1. Set up a display board with different types of pipes, fittings, and connections used for home plumbing. Demonstrate how each item is used.	
Repairs and Prevention Leaks Drains Frozen pipes Priming pumps Water hoses	1. Show students how to solder, glue, or replace parts to stop leaks. 2. Replace washers and packing on a faucet. 3. Discuss commercial drain openers. Demonstrate how to use a flexible closet auger. 4. Have students use a torch or hot water to thaw frozen pipes. 5. Demonstrate how to prime a water pump. 6. Demonstrate how to repair water hose.	

COURSE: 7091

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
052. Make a simple drawing of a construction project. 053. Prepare a bill of material for a construction project. 054. Construct trellises and other simple projects. 055. Make minor repairs to doors, windows, furniture, etc. 056. Select materials needed to make repairs.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

052. have knowledge of simple drafting procedures in order to do a drawing of a construction project.
053. know how to prepare a bill of materials including cost estimates for a construction project.
054. demonstrate how to construct projects such as trellises, fences, etc.
055. properly select materials needed to make simple repairs.
056. make minor repairs to doors, windows, furniture, etc.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Drawing Sketches Basic Parts Lines Letters Views Dimensions Drafting Tools Scale Angle Compass Basic Procedures Used Drawings and Sketches of Simple Construction Projects	1. Exhibit and demonstrate drawing equipment. Secure a student project drawing/sketch and have the class study it. 2. Discuss use of sketches, drawings, and blue prints. 3. Use TRSP 7000-Ag.M-5 and develop technique needed to make drawings. 4. Assign several sketches and drawings to be made. Use pictures, objects and other drawings for illustrations as examples.	2, 4, 10, 11, 20, 46, 51, 52, 54, 55, 56, 65, 69, 73, 76, 80. 89, 90, 97, 116, 143, 152
Bill of Materials Project Selection Kind of material to be used Terms used in figuring bill Figuring Bill of Material Units of measure Bill of materials pieces kinds of materials dimensions quality board feet cost	1. Use TRSP 7000-Ag.M-6 and show/demonstrate how to figure a bill of materials. 2. Assign several projects to students for figuring a bill of material.	
Simple Projects Trellis Planters Others	1. Have a student select, design, and construct a simple project for developing skills.	
Selection of Materials for Repairs Cost Quantity Dimensions Types	1. Discuss how to acquire appropriate materials for making needed repairs on screens, windows, doors, furniture, etc.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Repairs Doors Windows Furniture Other	1. Demonstrate to students how to make needed repairs on screens, windows, doors, furniture, etc.	

COURSE: 7091

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
057. List the advantage of concrete for specific areas around the home such as walks, drives, porches, and posts. 058. Calculate the amount of concrete needed for specific jobs. 059. Identify the most economical way to purchase concrete for a given task.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

057. decide when to use concrete around the home for walks, drives, porches, and posts.
058. calculate the amount of concrete needed for a specific job.
059. select the most economical way to purchase concrete for a given task.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Concrete Advantage for Home and Grounds Walks Drives Porches Posts	1. Have students list uses of concrete around the homestead.	2, 4, 5, 10, 11, 46, 71, 73, 75, 76, 80, 89, 90, 143
Quantity Calculations	1. Demonstrate how to calculate amount of concrete needed to do a specific job.	
Economics of Mixing your own Ready mix Precast	1. Discuss different ways to purchase concrete. 2. Demonstrate how to mix different types of concrete.	
Project Construction Mixing Pouring Finishing	1. Select a small project for mixing, pouring, and finishing concrete.	

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
060. Identify and determine the different types of fences and gates homeowners can install and types best for contractors to install. 061. Describe the correct procedure for installing simple fences and gates.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

060. a. identify the different types of fences and gates that homeowners can install.
b. recognize the different types of fences and gates contractors install.
061. Install fences and gates correctly.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Fences and Gates Type Chain link Split rail Brick or stone Picket Louvered Other	1. List types of fences and gates on the blackboard along with advantages and disadvantages of each. 2. Visit fence building company.	2, 4, 5, 10, 11, 27, 28, 46, 52, 54, 55, 56, 65, 71, 73, 75, 80, 89, 90, 97, 107, 116, 143, 153
Installation Fences preparing the fence line post location installation Gates location construction and hanging	1. List procedures for installing fences and gates. 2. Demonstrate how to install a short section of fence. 3. Determine which fences and gates are easily installed by homeowners. 4. Discuss which fences and gates are more easily installed by contractors than homeowners.	

COURSE: 7091

UNIT TITLE: IV. Homestead and Gardening Mechanics UNIT LENGTH: 50 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
062. Describe conditions where paint is needed. 063. Describe the difference between types of finishing materials and determine which one is needed for specific jobs. 064. Prepare surface for finishing. 065. Apply paint, stain, and varnish safely and properly. 066. Clean and store brushes and rollers properly.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

062. identify the conditions on a surface that would determine whether painting is needed.
063. identify the different types of finishing materials and determine which material is needed for a certain job.
064. prepare a surface upon which finishing materials will be applied.
065. apply paint, stain, and varnishes to a surface correctly and safely.
066. clean and properly store brushes and rollers after their use.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Paint, Stains and Varnishes When to Paint or Stain Protect wood and metal Scaling, flaking or fading Improve appearance	1. Describe conditions that determine when you should paint.	2, 4, 10, 11, 20, 107, 153
Selection of Paints and Stains Paint outside house paint interior flat house paint enamel floor barn implement roof masonry Ingredients vehicle pigment extenders driers Types of paints latex oil base Varnish Stain oil base dye stain (penetrating) Preservatives Creosote Pentachlorophenol Copper naphthenate	1. Visit a hardware or paint store to observe types of paints. 2. Demonstrate types of paints, stains, and varnishes. 3. Have students list advantages and disadvantages of paints, vehicles and pigments. 4. Discuss why different paints are needed for use on different surfaces.	
Preparing Structures for Painting or Stains Removing old paint wire brushing scraping sanding blow torch removal	1. List conditions to be corrected before paint is applied. 2. Demonstrate proper preparation of various surfaces. 3. Provide materials to students and have them prepare a surface for painting or staining.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Removing ruse sanding solvents		
Caulking		
Application Methods and equipment spray roller brush ladders and other equipment	1. Have students list in writing the methods of applying paints, stains, and preservatives and the uses of each. 2. Assist students in applying paints, stains and varnishes on small projects. 3. Demonstrate proper use and safety of painting equipment, ladder use, etc. 4. Visit and observe a painter and report observations to the class.	
Cleaning and Storage Cleaning materials Cleaning procedures brushes and rollers spray guns painting equipment Storage of equipment	1. Demonstrate cleaning procedures. 2. Have students clean brushes, rollers, and spray guns. 3. Have students wrap and store brushes, rollers, and spray guns properly. 4. Have students store ladders and other paint equipment in an organized manner.	

COURSE: 7091 Homestead and Gardening Skills

UNIT TITLE: V. Home Safety

UNIT LENGTH: 15 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
067. Demonstrate basic first aid skills.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

067. a. demonstrate knowledge and skills of basic first aid for different types of poisons.
b. demonstrate proper emergency treatment for specific types of personal injury.
c. identify and respond to extreme weather conditions and natural disasters.
d. demonstrate fire and firearm safety.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
First Aid Skills Define First Aid Self-help Home care Poisons, Choking, Shock, Bleeding, Burns, Snake Bite, Broken Bones, etc. Types Causes Symptoms Treatment Weather Extremes Heat Cold Natural Disasters Tornadoes Hurricanes Lightening Floods	1. Provide each student access to an American Red Cross Standard First Aid Manual. 2. Invite guest speaker from local Red Cross to speak on first aid skills. 3. Have students develop an understanding of self-home care first aid skills. 4. Invite speaker from local rescue squad to speak on handling emergencies. 5. Illustrate Heimlich Maneuver to aid a choking victim. 6. Locate pressure points on body to stop bleeding. 7. Develop an understanding of shock and how to treat it. 8. Demonstrate applying a splint on a broken limb. 9. Demonstrate proper procedures for transporting an injured victim. 10. Illustrate proper use of a snake bite kit. 11. Discuss the proper use of clothing to guard against weather extremes. 12. Instruct students in Cardiopulmonary Resuscitation (CPR) experiences. 13. Simulate emergency situations such as: a. broken bones. b. bleeding. c. choking.	3, 6, 7, 8, 9, 100, 101, 102, 103, 107
Prevention Skills Fire Alarms Extinguishers	1. Demonstrate the effectiveness of an alarm in the home. 2. Students demonstrate using fire extinguishers. 3. Identify the types of extinguishers and uses of each. 4. Invite fire chief or fireman to speak on safety practices to prevent fires and cope with emergencies. 5. Visit local store to see various alarms and extinguishers on the market.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Firearms Protection Survival	1. Arrange for students to complete Firearms and Hunter Safety Course. 2. Demonstrate proper firearm handling. 3. Develop hunter safety activity trail. 4. Demonstrate proper cleaning of a gun. 5. Encourage participation in the Chapter Safety Contest.	

COURSE: 7091 Homestead and Gardening Skills

UNIT TITLE: VI. Home Gardens

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
068. Identify five values of the home garden.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

068. explain the benefits of a home vegetable garden.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Home Garden Value Better Diets Dollar Value Exercise Relaxation Education	1. Lead students in a discussion on the value of a home garden. 2. Review with the class the nutritional value of vegetables and food for a balanced diet.	55, 56, 58, 60, 65, 66, 67, 76, 105
Benefits Savings Intrinsic	1. Escort students on an exploratory trip to a grocery store and farmers' market to price vegetables. 2. Lead student discussion on the benefits of exercise in the garden and the enjoyment of growing plants and tilling the soil.	

UNIT TITLE: VI. Home Gardens UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
069. Draw a plan for the home garden based on family size, crop preferences, and plant varieties. 070. Select the proper site for a home garden.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

069. make a drawing of an appropriate home garden for a given situation.
070. a. evaluate different areas as possible garden sites.
     b. given several locations, determine the best site for a garden.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Planning Vegetable Selection Variety Personal preference Size Area Family Location Convenience Exposure Soils Types Drainage Fertility	1. Provide students materials from which to list the best varieties of ten vegetables for planting in local area, including at least one disease resistant variety for each. 2. Show filmstrip on "Vegetables" by Vocational Education Productions of California (VEP). 3. Encourage students to plan a home garden. 4. Plan a garden as a school or home project.	30, 31, 49, 51, 55, 56, 58, 60, 65, 66, 69, 76, 86, 88, 105, 106, 107, 108, 132
Drawing a Garden Plan Scope for Each Vegetable Planting Location of Vegetables in the Plan	1. Using the "Garden Manual," have students list factors to consider in locating a garden. 2. Conduct a field trip to look at different soils. Review factors related to vegetable production. 3. Have each student make a scale drawing of a family garden. 4. Encourage students to have an SOE program and complete Fruit and Vegetable Production Proficiency Record.	

COURSE: 7091

UNIT TITLE: VI. Home Gardens

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
071. Take soil samples and describe utilization of results.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

071. a. take soil samples and interpret results.
     b. make correct applications to adjust soil pH as needed.
     c. correctly apply chemical and organic fertilizer as required.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Soil Sample Taking Interpreting Implementing Recommendations	1. Use reference material from which students may list plant food requirements for vegetables. 2. Demonstrate procedures for taking a soil sample. 3. Have students take a soil sample of the home or neighbor's garden.	30, 31, 51, 55, 56, 58, 60, 62, 63, 65, 66, 69, 76, 85, 86, 105, 106, 107, 108, 127
Fertilization Recommendations Lime Application Chemical Organic	1. Secure copies of soil sample reports and help students make interpretations. 2. Discuss pH and liming. List types of liming materials and recommendation for applying to the soil. 3. Review procedures for applying fertilizer. Assist students in studying appropriate fertilizers and time of application. 4. Discuss with the students the value to organic fertilizers; including compost.	

COURSE: 7091

UNIT TITLE: VI. Home Gardens

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
072. Select and obtain seeds and plant materials.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

072. a. explain how greenhouses and cold frames are used for starting seeds.
b. select quality seeds and transplants for the home vegetable garden.
c. grow transplants for use in the home or school garden.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Seeds and Transplants Growing Aids Greenhouse Cold frame Growing media Containers Watering systems Seeds Varieties Sources Quality Germination Care Transplants Purpose Growing Purchasing Quality Care	1. Familiarize students with greenhouse and cold frame and utilize these for growing plants. 2. Discuss seed germination and growth for acquiring transplants versus direct seeding in a garden. 3. Have students mix growing media components to prepare a growing media. 4. Discuss components of commercial growing media. 5. Have students sow seeds and raise transplants. 6. Compare with students good characteristics of transplants versus poor features.	51, 55, 56, 58, 60, 65, 66, 69, 76, 85, 86, 88, 104, 105, 106, 107, 108, 132

COURSE: 7091

UNIT TITLE: VI. Home Gardens

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
073. Prepare the seed bed. 074. Seed, transplant, fertilize, and cultivate garden plants.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

073. a. till and prepare a garden for seeding, using various pieces of equipment.
  b. prepare rows for a garden and apply fertilizers.

074. a. sow seeds in the garden according to recommendations.
  b. establish transplants according to recommendations.
  c. mulch and thin vegetable plants according to recommendations.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Garden Preparation Tilling Soil Laying off Rows Applying Fertilizers Broadcasting Bands	1. Demonstrate the proper procedure for using garden tractors, tillers, and other garden equipment. 2. Have student prepare a garden area, laying off rows, and apply fertilizers.	22, 30, 31, 45, 55, 56, 58, 59, 60, 62, 63, 65, 66, 76, 83, 84, 85, 86, 88, 94, 99, 104, 105, 106, 107, 108, 114, 125, 127, 130, 132
Planting Sowing Seed Transplanting Care Fertilizing - frequency Trellising Mulching Thinning	1. Assist students in preparing a seed bed for sowing seeds directly in garden rows. 2. Have students properly transplant tomatoes, peppers, collards, and other transplants. 3. Demonstrate to students various ways to trellis vegetables. 4. Discuss with students mulching plants in gardens using organic materials. 5. Review procedure for thinning vegetables after germination.	
Cultivation Benefits Weed control Soil aeration Water infiltration Methods Hand tools Tillers Garden tractors	1. Provide students reference materials showing benefits of cultivation. 2. Demonstrate different types of cultivating.	

COURSE: 7091

UNIT TITLE: VI. Home Gardens

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
075. Identify and control garden insects. 076. Identify and control garden diseases. 077. Identify and control garden weeds.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

075. identify and control garden insects according to recommendations.
076. identify and control garden diseases according to recommendations.
077. identify and control garden weeds according to recommendations.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Insects and Related Pests Identification Insects Insect relatives Snails and slugs Nematodes Control Measures Selecting the insecticide Safely handling the insecticide Properly using pesticide equipment Applying pesticides Disposing of pesticide containers Cleaning and storing application equipment after use Organic and nonchemical control options by hand planting selected plants that attract harmful insects destroying insect harboring environments protecting predator insects	1. Display insects or show slides/filmstrips of different insects. 2. Have class members participate in a class insect collection project. 3. Show pesticide slide set from AAVIM. 4. Analyze information on various insecticide containers. 5. Demonstrate the correct application of insecticides. 6. Direct student experiences of matching insecticides with insects to be controlled. 7. Explain the different formulations of insecticides. 8. Demonstrate and provide students experiences in disposing of pesticide containers and cleaning application equipment. 9. Discuss organic and nonchemical ways to control insects.	8, 22, 45, 51, 55, 56, 59, 60, 65, 66, 69, 76, 83, 84, 85, 86, 94, 102, 105, 106, 107, 108, 125
Diseases Identification Types of diseases Plants subject to attacks Early symptoms After effects on plants Controlling Diseases Selecting the fungicide Selecting the nematicide Reducing and eliminating conditions that promote diseases Correctly and safely applying fungicides and nematicides Cleaning application equipment Disposing of empty containers Organic and nonchemical controls removing and destroying diseased plants practicing recommended crop rotations selecting disease free plants and seeds	1. Display or show slides/filmstrips on different plant diseases. 2. Display evidences of disease on different plants at various maturity stages. 3. Have students study container labels and match the fungicide or nematicide with the disease. 4. Demonstrate and provide students experiences in correctly applying fungicides and nematicides. 5. Demonstrate and provide students experiences in cleaning application equipment. 6. Demonstrate recommended procedures for disposing of empty containers. 7. Analyze cautions on container labels that provide information for unexpected emergencies in handling pesticides.	

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Weeds Identification Types of weeds broadleaf grasses Distinguishing characteristics and growth Controlling Weeds Selecting the herbicide preemergence postemergence selective herbicides nonselective herbicides Selecting application equipment Safely applying the herbicide Cleaning application equipment Disposing of empty herbicide container. Organic and nonchemical controls hoeing and cultivating using black plastic using mulches other	1. Display weed samples and show slides/flimstrips on weeds. 2. List major differences between broadleaf and grasses. 3. Discuss growth patterns and characteristics of weeds. 4. List different herbicides for different stages of plant development. 5. Establish for observation (by students) a test plot using a herbicide as a preemergence control. 6. Establish for observation (by students) a test plot using a herbicide as a postemergence control. 7. Assign students the task of matching herbicides to specific weed control needs. 8. Demonstrate and provide students experiences in applying herbicides. 9. Require each student to clean, prepare and store a piece of application equipment. 10. Provide students experiences in using nonchemical methods of weed control.	

COURSE: 7091

UNIT TITLE: VI. Home Gardens

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
078. Irrigate garden plants properly.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

078. properly irrigate the home garden during needed times of the year.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Irrigation Purpose Plant health Increase yield Protect against frost or freezing Time to Irrigate During droughts Threat of frost or freezing Sources of Water Ponds and lakes Streams Wells Canals Public water systems Irrigation Equipment Sprinklers Hoses and pipe Pumps Nozzles Procedures Sprinklers Trickle Mist Hose Trenches Containers	1. Have students list the reasons for irrigating garden plants. 2. Analyze symptoms of plants that need water. 3. List different sources of water for irrigation purposes. 4. Visit a garden center with students to observe and determine cost of irrigation equipment on sale. Discuss the findings in class. 5. Trace the mist system used in a greenhouse from the source of water to the plant. 6. Describe to students procedures for using different irrigation systems.	2, 10, 29, 51, 55, 56, 60, 65, 66, 69, 76, 85, 86, 88, 99, 105, 106, 107, 108

COURSE: 7091

UNIT TITLE: VI. Home Gardens

UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
079. Identify and describe harvesting methods. 080. Describe storing and marketing practices.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

079. identify harvesting methods and optimum timing for each.
080. describe storing and marketing practices.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Harvesting Methods Picking Digging Cutting (headed vegetables) Timing the Harvest For optimum sugar content For correct maturity Correct time of day	1. Discuss with students the varied ways to harvest vegetables. 2. Describe conditions that determine the time to harvest vegetables. 3. Demonstrate on selected vegetables the proper techniques for harvesting. 4. Discuss the harvesting of corn in late afternoon versus morning.	51, 55, 56, 60, 65, 66, 69, 76, 85, 86, 105, 106, 107, 132, 153
Preparation for Marketing Cleaning and Grading Washing Trimming Shelling Peeling Dicing Waxing Packaging Cooling Freezing Canning Drying Selling Techniques Pricing Advertising Distributing Marketing Contracts Farmers' Markets Pick-your-own Roadside Auctions	1. Have students list steps in preparing specific vegetables for sale. 2. Acquire a Home Economics Teacher or Demonstration Agent to discuss vegetable preservation methods with the class. 3. Identify the different ways vegetables are marketed in the community. Visit one or more markets with students to observe marketing activities. 4. List ways to advertise price and distribute produce.	

UNIT TITLE: VI. Home Gardens UNIT LENGTH: 45 hours

COMPETENCY:	COMPETENCY-BASED TEST ITEMS
081. Compare and contrast commercial and home vegetable production.	

INSTRUCTIONAL OBJECTIVES: Upon completion of this unit, the student will be able to:

081. differentiate between commercial and home vegetable production.

CONTENT OUTLINE	LEARNING/TEACHING ACTIVITIES	REFERENCES/RESOURCES
Vegetable Production Commercial Size of operation acreage (scope) single or multiple variety production Harvesting hand mechanical Marketing general pick-your-own contract growing auction Farmer's Market Home Size of operation acreage (scope) multiple variety production Harvesting hand mechanical Marketing general Farmer's Market pick-your-own roadside	1. Visit a commercial vegetable enterprise with the students and observe the nature of activities. 2. Discuss types of mechanical harvesters used for specific vegetable harvesting. 3. Visit a farm implement dealer that sells mechanical vegetable harvesting equipment. Assess the size of an enterprise that would merit the purchasing of harvesters. 4. Differentiate between home and commercial vegetable production through a classroom discussion. 5. Visit an auction where vegetables are sold to bidders. 6. Discuss the availability of markets for vegetables not now grown in the area but offer promise as additional enterprises.	51, 55, 56, 60, 65, 66, 69, 76, 85, 86, 98, 105, 106, 107, 108, 153

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Agricultural Education

Vocational Education

Competency Test-item Bank

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JULY 1, 1986

DIVISION OF VOCATIONAL EDUCATION
NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION

(VEC-AG-C/TIB-7091) Homestead and Gardening Skills

Activities and procedures within the Division of Vocational Education are governed by the philosophy of simple fairness to all. Therefore, the policy of the Division is that all operations will be performed without regard to race, sex, color national orgin, or handicap.

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Agricultural Education
Course Number 7091 - Homestead and Gardening Skills

COMPETENCY STATEMENT	Core (X)
A. General	
001. Identify the major areas in the agriculture/agribusiness industry.	X
002. List six ways agriculture is important to the economy of the state and nation.	X
003. Identify five factors that have an influence on agriculture.	X
004. Trace farm products in the area from the farmer to the consumer and identify cost factors in each area.	X
005. Identify and discuss major reasons why agricultural education is important.	X
B. FFA and SOEP	
006. Identify the history and structure of the FFA organization.	X
007. Identify six aims and purposes of the FFA.	X
008. Identify six activities to be included in a local FFA program of activities that will help to meet individual, chapter, school and community needs.	X
009. Conduct a business session using recommended parliamentary procedures.	X
010. Plan and implement a supervised occupational experience program (SOEP).	X
011. Maintain appropriate records on each type of supervised occupational program.	X
C. Homestead Planning	
012. List the factors to consider in planning the homestead site.	X
013. Identify the components and draw a plan of the homestead, considering the physical factors of the site.	X
014. Identify and select lawn grasses and ground covers.	X
015. Establish the home lawn.	X
016. Schedule and perform lawn maintenance duties including fertilization, mowing, and pest control.	X
017. Identify and select appropriate shrubs and trees for the homestead based upon their appearance and use.	X
018. Plant shrubs and trees properly for the homestead site.	X
019. Perform shrub and tree maintenance activities including fertilization, pruning, and pest control.	X
020. Select fruit and nut plants for home use.	X
021. Establish and maintain fruit and nut plants for the homestead considering planting, pruning, and pest control methods.	X
022. Identify, describe, and perform harvesting and handling methods of fruits and nuts for home use.	X
023. Identify and select appropriate floral plants for the homestead based upon their appearance and use.	X
024. Incorporate flowers into the homestead and maintain properly.	X
025. Identify and select appropriate house plants for the homestead.	X
026. Grow and maintain house plants.	X

COMPETENCY STATEMENT	Core (X)
D. Homestead and Gardening Mechanics	
Tools	
027. Identify tools needed in the homestead and garden.	X
028. Demonstrate the safe and correct use of homestead and gardening tools.	X
029. Demonstrate the safe and correct procedure for maintenance and storage of hand and power tools.	X
Lawn Mowers	
030. Determine the proper size and type of lawn mowers for various lawn needs.	X
031. List five safety rules for lawn mower use.	X
032. Demonstrate the correct use of lawn mowers.	X
033. Perform basic lawn mower maintenance jobs.	X
034. Prepare and properly store a lawn mower.	X
Garden Tractors and Tillers	
035. Determine the proper size and type of garden tractors and tillers for various garden needs.	X
036. List five safety rules for garden tractors and tillers.	X
037. Demonstrate the correct use of garden tractors and tillers.	X
038. Perform basic maintenance on garden tractors and tillers.	X
039. Describe the proper storage of a garden tractor and tiller.	X
Electricity	
040. Define the meaning and describe the use of basic electrical terms.	X
041. Acquire basic safety procedures for working with electricity.	X
042. Select electrical repair parts and appropriate tools.	X
043. Make basic home and electrical repairs.	X
Sprayers, Dusters, and Granular Applicators	
044. Determine the proper type and size of sprayers, dusters, and granular applicators for various home and garden needs.	X
045. Demonstrate the safe and proper use of sprayers, dusters, and granular applicators.	X
046. Adjust and calibrate sprayers, dusters, and granular applicators.	X
047. Make minor repairs and perform maintenance jobs on sprayers, dusters, and granular applicators.	X
Plumbing	
048. Describe the procedures for handling and repairing emergency plumbing problems.	X
049. Select correct plumbing repair parts.	X
050. Repair or replace faucets and water hoses.	X
051. Open clogged drains.	X

Agricultural Education

Course Number 7091 - Homestead and Gardening Skills

COMPETENCY STATEMENT	Core (X)
Carpentry Repairs	
052. Make a simple drawing of a construction project.	X
053. Prepare a bill of materials for a construction project.	X
054. Construct trellises and other simple projects.	X
055. Select materials needed to make repairs.	X
056. Make minor repairs to doors, windows, furniture, etc.	X
Concrete	
057. List the advantages of concrete for specific areas around the home such as walks, drives, porches, and posts.	X
058. Calculate the amount of concrete needed for specific jobs.	X
059. Identify the most economical way to purchase concrete for a given task.	X
Fences and Gates	
060. Identify and determine the different types of fences and gates that homeowners can install and types best for contractors to install.	X
061. Describe the correct procedure for installing simple fences and gates.	X
Paints	
062. Describe conditions where paint is needed.	X
063. Describe the difference between the types of finishing materials and determine which one is needed for a specific job.	X
064. Prepare surface for finishing.	X
065. Apply paint, stain, and varnish safely and properly.	X
066. Clean and store brushes and rollers properly.	X
E. Home Safety	
067. Demonstrate basic first aid skills.	X
F. Home Gardens	
068. Identify five values of the home garden.	X
069. Draw a plan for the home garden based on family size, crop preferences, and plant varieties.	X
070. Select the proper site for home garden.	X
071. Take soil samples and describe utilization of results.	X
072. Select and obtain seeds and plant material.	X
073. Prepare the seedbed.	X
074. Seed, transplant, fertilize, and cultivate garden plants.	X
075. Identify and control garden insects.	X
076. Identify and control garden diseases.	X

Agricultural Education

Course Number 7091 - Homestead and Gardening Skills

COMPETENCY STATEMENT	Core (X)
077. Identify and control garden weeds.	X
078. Irrigate garden plants properly.	X
079. Identify and describe harvesting methods.	X
080. Describe storing and marketing practices.	X
081. Compare and contrast commercial and home vegetable production.	X

7091 HOMESTEAD AND GARDENING SKILLS

COMPETENCY 001. Identify the major areas in the agriculture/agribusiness industry.

TEST ITEM 001-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____1. Supplies and services is a function taught in Marketing and Distributive Education and not in Vocational Agriculture.

_____2. The study of fuel and lubricants should be included only in the Agricultural Machinery/Equipment/Structures Cluster.

_____3. Occupations in Ornamental Horticulture are not classified as agricultural occupations.

_____4. The production of fruits and vegetables make up the major part of the Natural Resources and Environmental Protection Cluster.

_____5. The Agricultural Production and Forestry Clusters are the two areas primarily concerned with providing raw materials needed for food and fiber.

TEST ITEM-001-00-02

INSTRUCTIONS STUDENTS: Match each statement in COLUMN B with the most appropriate term in COLUMN A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____1. Agricultural Production	a. Preparing seedbed for a lawn
_____2. Agricultural Machinery/ Equipment/Structures	b. Preparing seedbed for a pasture
_____3. Agricultural Products and Processing	c. Determining the quality of water
_____4. Ornamental Horticulture	d. Repairing small gasoline engines
_____5. Supplies and Service	e. Cruising a stand of timber
_____6. Forestry	f. Classifying and grading livestock carcasses
_____7. Natural Resources and Environmental Protection	g. Preparing feeds in a feed mill

TEST ITEM 001-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. AGRICULTURAL RESOURCES

   a. Harvested products
   b. Tools used to repair equipment
   c. Processing of agricultural products
   d. Reproduces or replenishes themselves

2. AGRICULTURAL PRODUCTION

   a. Processing, distribution and use of consumable supplies
   b. Growing of crops or raising of livestock
   c. Planning of campsites and recreational centers
   d. Design, construct and maintain agricultural structures

3. AGRICULTURAL SUPPLIES AND SERVICES

   a. Preparing and selling feeds
   b. Constructing water and soil management structures
   c. Inspecting fruits and vegetables
   d. Cultivation and management of ornamental plants

4. FORESTRY

   a. Designing water systems and water purification plants
   b. The cultivation and management of flowering plants
   c. Transplanting tree seedlings
   d. Developing and protecting range lands

5. ORNAMENTAL HORTICULTURE

   a. Processing of raw materials
   b. Rearranging and modifying natural scenery
   c. Processing, packaging and canning meats
   d. Processing of fruits, vegetables and nuts

COMPETENCY 002: List six ways agriculture is important to the economy of the state and nation.

TEST ITEM 002-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct, or False if the statement is incorrect.

_____1. The ability of the agricultural industry to meet the ever increasing demand for food and fiber is one of the wonders of science.

_____2. Agriculture provides jobs for millions of people engaged in farming and in industries related to farming.

_____3. Agriculture is limited to the extent that it only provides food and fiber for society.

_____4. Agriculture is the largest employer with a payroll that includes approximately one out of every five jobs.

_____5. Approximately 3 million workers are employed to provide supplies and services to farmers.

TEST ITEM 002-00-02

INSTRUCTION TO STUDENTS:

Compare the value of North Carolina commodities produced with those of other states by indicating their numerical ranking in Column A. (Ex. 1st, 4th, etc.)

COLUMN A	COLUMN B
a. _________	a. Farm forest products
b. _________	b. Turkeys raised
c. _________	c. Peanuts
d. _________	d. Sweet potatoes
e. _________	e. Apples
f. _________	f. Commercial broilers
g. _________	g. Flue-cured tobacco

TEST ITEM 002-00-03

INSTRUCTION TO STUDENTS: Complete the following statement by inserting the correct answer(s) in the blank space(s).

1. Most countries spend over _____percent of their income after taxes for food.

2. Americans spend approximately ________ percent of their income for food after taxes.

3 __________ is still America's number one industry, generating over twenty five percent to our gross rational product.

4. Although fewer and fewer people are engaged in the production aspect of Agriculture, the total industry is increasing in importance as the world-wide population explosion places greater and greater demands on agriculture for _______ and ________.

5. Under the pressure from _________ growth, it is imperative that all Countries re-examine their agricultural resource base.

COMPETENCY 003. Identify five factors that have an influence on agriculture.

TEST ITEM 003-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. Irrigation is not needed in areas where rainfall exceeds 35 inches per year.

_____ 2. Solar energy and fossil fuels are non-exhaustible forms of energy.

_____ 3. The Wildlife Resource Commission is responsible for establishing rules that govern the harvesting of wildlife.

_____ 4. If the Gross National Product increases, so does the farmer's profit.

_____ 5. Agriculture has changed from a labor intense industry to a capital intense industry.

TEST ITEM 003-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in COLUMN A. Record the letter in the space to the left of the term.

COLUMN B	COLUMN A
_____1. Weather	a. Rapid movement of perishable farm produce to market.
_____2. Mechanization	b. Has lead to increased tillage and increased production of crops.
_____3. Road Construction	c. Caused reduction of fertile land once used for agricultural production.
_____4. Pesticides	d. Brought about tremendous increases in yield of corn and other crops.
_____5. Transportation	e. Improved yields through control of weeds, insects and diseases.
_____6. Hybrid Seed	f. Increased or decreased production because of too little or too much moisture, excessive heat or excessive cold.

TEST ITEM 003-00-03

INSTRUCTION TO STUDENTS:

Briefly explain how the following agricultural agencies, groups, organizations or individuals serve the Agricultural population.

1. Agricultural Extension Agencies

2. Vocational Agricultural Teachers

3. Veterinarians

4. The Farm Bureau

COMPETENCY 004. Trace farm products in the area from the farmer to the consumer and identify the cost factor in each area.

TEST ITEM 004-00-01

INSTRUCTIONS TO STUDENT: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____1. The procedures of marketing are different for practically every product.

_____2. An importance step in marketing is to assemble the product.

_____3. A successful farm manager needs to know how his products are marketed.

_____4. The essential job of the marketing system is to make a product available when, where, and the way in which it is wanted.

_____5. Little has been done in recent years to improve the efficiency of marketing.

TEST ITEM 004-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Marketing where the product us sold to the highest bidder.

    a. Auction market
    b. Terminal market
    c. Open market
    d. Enterprise market

2. Which of the following statements are true concerning markets:

    a. A market is a coming together of the forces of supply and demand
    b. A market is a place where buyers and sellers meet
    c. Both a. and b.
    d. None of the above

3. Which of the following statements are true concerning potential markets:

    a. It is a demand without supply
    b. It is a supply with a demand
    c. Both a. and b.
    d. None of the above

4. Market prices are unique with respect to:

    a. Form
    b. Time
    c. Place
    d. All of the above

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5. What causes prices to change over time?

a. Shifts in demand
b. Changes in consumer income
c. Change in taste and preference
d. All of the above

TEST ITEM 004-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____1. Jobbers

_____2. Broker

_____3. Commission merchant

_____4. Retailer

_____5. Central market

COLUMN B

a. Primary market point

b. They buy in relatively small lots from wholesalers

c. Strictly a "contact man"

d. Handles large amounts of products

e. Final step in the marketing system

COMPETENCY 005. Identify and discuss major reasons why agricultural education is important.

TEST ITEM 005-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement, write TRUE if the statement is correct and FALSE is the statement is incorrect.

_____1. The main objective of agricultural education is to train all high school students to become farmers.

_____2. Agricultural Education is a program designed to prepare boys to enter agricultural occupations.

_____3. Students enrolled in agricultural education should develop the ability to secure employment in agricultural occupations.

_____4. Developing the ability to get along with people is not an objective of agricultural education.

_____5. Upon completion of a program in agricultural education, students should possess the skills and competencies needed to enter and advance in an agricultural occupation.

TEST ITEM 005-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in COLUMN B with the most appropriate term in COLUMN A. Record the letter in the space to the left of the term.

COLUMN A

_____1. Career opportunities

_____2. Competency

_____3. Human relations

_____4. Job placement

_____5. Leadership

COLUMN B

a. The ability to get along well with other people

b. Occupational areas in which one might expect to find employment

c. The ability to provide assistance and guidance in such areas as education, employment and recreation

d. The mystery of knowledge and/or skills in a given area

e. The ability to secure satisfactory employment in an occupation for which trained

TEST ITEM 005-00-03

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. To develop an understanding of and appreciation for career _______ in the broad field of agriculture.
2. To develop _______ ________ needed by individuals preparing to engage in agricultural occupations.
3. To develop those abilities in _______ relations which are essential in agricultural occupations.
4. To develop the ability to secure satisfactory ______ and to _______ in agricultural occupations through a program of continuing education.
5. To develop the abilities needed to exercise and follow effective ________.

COMPETENCY 006. Identify the history and structure of the FFA organization.

TEST ITEM 006-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_______ 1. The FFA was organized in November, 1928.

_______ 2. At the time the FFA was organized it included all the states that currently have the organization.

_______ 3. The National FFA Center is located on part of the land once owned by George Washington.

_______ 4. A forerunner of the FFA was the FFV (Future Farmers of Virginia.)

_______ 5. Harry Grosbeak was the founder of the FFV organization.

_______ 6. The Future Farmers of America was established in Kansas City, Kansas in 1928.

TEST ITEM 006-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in COLUMN B with the most appropriate term in COLUMN A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
______ 1. 1944	a. The National FFA Foundation Inc. was founded in
______ 2. 1952	b. The New Farmers of America (NFA) and the FFA were merged in
______ 3. 1965	c. Girls were admitted to FFA in
______ 4. 1969	d. The National Future Farmers Magazine was first published in
______ 5. 1971	e. The National FFA Alumni Association was established in

TEST ITEM 006-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. One of the N.C. officers who did not serve as a national officers was.

    a. John Pope
    b. Jeff Rudd
    c. Graham Boyd
    d. Larry Brittian

2. One of the below is not included as one of the eleven chapter activities.

    a. Cooperation
    b. Leadership
    c. Girl and Boy Relations
    d. Alumni Relations

3. One of the following is not a constitutional officer of the FFA.

    a. President
    b. Sentinel
    c. Parliamentarian
    d. Advisor
    e. Treasurer

4. Which Governor of North Carolina was a former FFA President of the N.C. Association.

    a. Jim Martin
    b. Bob Scott
    c. Jim Hunt
    d. Kerr Scott

COMPETENCY 007. Identify six aims and purposes of the FFA.

TEST ITEM 007-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____ 1. Leadership

_____ 2. Character

_____ 3. Citizenship

_____ 4. Patriotism

_____ 5. Cooperation

_____ 6. Thrift

_____ 7. Scholarship

_____ 8. Recreation

COLUMN B

a. To provide and encourage the development of organized recreational activities.

b. To encourage and practice thrift

c. To develop competent and aggressive agricultural leadership.

d. To develop character, train for useful citizenship and foster patriotism.

e. To participate in cooperative effort

f. To encourage improvement in scholarship

TEST ITEM 007-00-02

INSTRUCTION TO STUDENTS:

From the list of words provided, complete the following statement by inserting the correct answer(s) in the blank space(s).

leadership
work
intelligent

cooperation
themselves
home

citizenship
country

1. The primary aim of the FFA is the development of Agriculture ________, ________ and ________.

2. One purpose of FFA is to create and nuture a love of ______ life.

3. One purpose of FFA is to strengthen the confident of students of vocational agriculture in ______ and their _______.

4. One purpose of FFA is to create more interest in the ________ choice of agriculture occupation.

5. One purpose of the FFA is to encourage members to improve their ________ and its surroundings.

TEST ITEM 007-00-03

Recite the FFA Motto

COMPETENCY 008. Identify six activities to be included in a local FFA program of activities that will help meet individual chapter, school, and community needs.

TEST ITEM 008-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____ 1. Supervised Occupational experience

_____ 2. Cooperative

_____ 3. Community Service

_____ 4. Leadership

_____ 5. Earnings and Savings

_____ 6. Conduct of Meetings

_____ 7. Scholarship

_____ 8. Recreation

_____ 9. Public Relations

____ 10. State and National Activities

____ 11. Alumni Relation

COLUMN B

a. Participate in a district, state or national contest.

b. Sell citrus fruit as a chapter fund raising project.

c. Write an article for the local paper each week.

d. Organize a FFA softball league.

e. Involve alumni in preparing judging teams.

f. Conduct a career orientation night.

g. Feature the SOE program of the "week" or "month" in a local newspaper.

h. Sponsor a "Food for America" program.

i. Hold at least one chapter meeting each month at a regular scheduled time

j. Conduct the Creed and Public Speaking contests.

k. Landscape a local park.

TEST ITEM 008-00-02

1. _______ setting and planning should be done by ______ ______ which report to the entire chapter.

2. Information for planning Program of Activities can be found in the _______ ______ and the ______ ______.

3. A chapter program of activities is like a "_______ _______."

4. A program of activities encourages ______ and develops ______ ______ among FFA members.

5. When planning is complete the chapter's program of activities should be ______ to each _______.

TEST ITEM 008-00-03

List 6 FFA reference materials that would be helpful to members if used to support the planning of a program of activities.

COMPETENCY 009. Conduct a business session using recommended parliamentary procedure.

TEST ITEM 009-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

______ 1. The correct use of parliamentary procedure is essential to the success of all organizanized meetings.
______ 2. "Mr. Chairman" should always be used when addressing the presiding officer.
______ 3. The purpose of the main motion is to introduce new business to the membership.
______ 4. There cannot be but one main motion under consideration at any given time.
______ 5. An amendment to a motion does have to relate to the main motion.

TEST ITEM 009-00-02

INSTRUCTION TO STUDENTS: In the table below is a list of different kinds of motions. In the space opposite each motion, place a check ( ) to indicate action appropriate for that particular motion.

A. Requires a second

B. Is debatable

C. Is amendable

Motion	A	B	C
1. Suspension of the rules			
2. Point of Order			
3. Main Motion			
4. Take a recess			
5. Reconsider			
6. Withdraw a Motion			
7. Lay on the table			
8. Refer to a committee			
9. Adjourn			
10. Amend			

TEST ITEM 009-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____ 1. The gavel

_____ 2. Division of the house

_____ 3. Main motion

_____ 4. The motion to table

_____ 5. The point of order

_____ 6. Appeal the decision of the chair

_____ 7. Reconsider

COLUMN A

a. Lay aside an item of business temporarily.

b. Action of a member when he or she does not agree with the ruling of the president.

c. To introduce new business

d. Please be quite

e. To stop discussion on a motion

f. Used to enforce proper parliamentary rules.

g. To serve new vote on an item previously considered.

h. A method of requesting a recount of the vote.

COMPETENCY 010. Plan and implement a supervised occupational experience program (SOEP).

TEST ITEM 010-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. The supervised occupational experience program is an extension of the regular classroom and laboratory program.

_____ 2. Supervised occupational experiences provide opportunities for students to make practical application to classroom instructions.

_____ 3. Only students engaged in farming can have successful supervised occupational experience programs.

_____ 4. Exploratory experience programs are designed primarily for advanced agricultural students.

_____ 5. The main reason for keeping accurate supervised occupational experience records is to obtain a higher FFA degree.

TEST ITEM 010-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Supervised farming	a. Pruning fruit trees
_____ 2. Exploratory experience	b. Introduce new practices
_____ 3. Improvement projects	c. Raising livestock
_____ 4. Supplementary practice	d. Release time from school
_____ 5. Cooperative work experience	e. Interviewing chemical dealers

TEST ITEM 010-00-03

DIRECTIONS TO TEACHERS: The following statements are designed to determine the student's ability to plan a supervised occupational experience program. Provide a copy for each student.

INSTRUCTIONS TO STUDENTS: Answers to the statements below are necessary in order to plan a supervised occupational experience program. Write your answers in the space provided.

1. Name of enterprise or experience planned ____________________
2. Date program is to start ____________________
3. Reasons why I selected this program ____________________

   ____
4. What animals will be raised or crops grown? ____________________

   ____
5. What animals, seeds or plants will be needed? ____________________
6. From where will animals, seeds or plants be obtained? ____________________
7. What kinds and amounts of fertilizers and feeds will be needed? ____________________

   ____
8. Where will fertilizers and feeds be obtained? ____________________

COMPETENCY 011. Maintain appropriate records on each type of supervised occupational program.

TEST ITEM 011-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Net income is equal to gross income minus expenses.

_____ 2. A financial statement includes assets and liabilities.

_____ 3. Receipts include expenses.

_____ 4. A decrease in inventory is counted as an item of expense.

_____ 5. A person's net worth is equal to his assets plus liabilities.

_____ 6. Receipts may be in cash or non-cash.

TEST ITEM 011-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN-A	COLUMN A
_____ 1. Non-cash receipts	a. The sale of a tractor air filter would be entered as
_____ 2. Accounts receivable and is considered as an asset	b. Meals receives as part payment for labor are considered as
_____ 3. Current assets	c. Depreciation of a building is counted as
_____ 4. A receipt in record keeping	d. Gas and other items which can readily be converted into cash are known as
_____ 5. An expense in record keeping	e. Money owed to you is called

TEST ITEM 011-00-03

DIRECTIONS TO TEACHERS: Provide the students with a list of items that would be considered as assets and liabilities in a small business. Provide a financial statement blank.

Materials Needed: List of assets and liabilities

- account receivable	$ 200.00
- mortgage	500.00
- cash value of life insurance	150.00
- total inventory value	10,000.00
- accounts payable	1,000.00
- taxes due	50.00
- cash in the bank	2,000.00

Financial Statement Blank

INSTRUCTIONS TO STUDENTS: Using the list of assets and liabilities provided, prepare a financial statement for a small business.

COMPETENCY 012. List the factors to consider in planning the homestead site.

TEST ITEM 012-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. Attractiveness is one of the major considerations of a landscape plan.

_____ 2. Landscape plans should not be developed for convenience.

_____ 3. It is not important to consider how the home grounds will be used when developing a landscape plan.

_____ 4. A landscape blueprint should be drawn to scale.

_____ 5. Assymetric balance is a plan of formality.

TEST ITEM 012-00-02

DIRECTIONS TO TEACHERS: Provide instructions, materials and equipment needed for students to draw landscape plan for their individual home grounds. Prepare an observation check-list for each student to be tested.

INSTRUCTIONS TO STUDENTS: Draw a landscape plan for your home grounds.

Materials Needed: Drawing paper
Drawing equipment
Tape

TEST ITEM 012-00-03

INSTRUCTIONS TO STUDENTS To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. The outdoor living area is usually at the rear or side of the house.
_____ 2. Tall shrubs can be used to create privacy.
_____ 3. Foundations plants are tall plants.
_____ 4. Corner plants should be taller than plants under windows.
_____ 5. Bedding plants should always be used as foundation plants.
_____ 6. Evergreen plants should be used in the foundation planting.
_____ 7. A small flowering tree that could be used in a landscape plan is a pink dogwood.
_____ 8. Ligustrums are used for screening.
_____ 9. A good plant for framing and background would be a pecan tree.
____ 10. Rate of growth is not a factor to consider in selecting foundation plants

COMPETENCY 013. Identify the components and draw a plan for the homestead considering the physical factors of the site.

TEST ITEM 013-00-01

INSTRUCTIONS TO STUDENTS: From the list of words provided complete the following statements by inserting the correct answer(s) in the blank space(s).

triangular
axe
hard
drawing
increment

soft
scale
desk
symbols
linear

chalk
T
compass
lead

1. Areas may be reduced in size to fit a paper by using a ________.
2. ________ boards and ________ squares make the drawing straight lines an easy task.
3. Lines may vary in size due to the type of ________ in the pencil.
4. _______ lead will draw a narrow line while _______ lead will make a broad line.
5. Circles may be drawn using a ______.
6. Drawings show examples of real plants by using ______.
7. Measuring the distance from one point to another point uses ______ measuring.
8. ________ scales are used for most simple drafting work.

TEST ITEM 013-00-02

INSTRUCTIONS TO STUDENTS: From the list of words provided complete the following statement by inserting the correct answer(s) in the blank space(s).

sketches and symbols
distances
area

Arrow
1/4" = 10'

1. An ______ is usually shown on a landscape plan to orient the plan with the sun.
2. ________ shown on the plan is the scale for that plan.
3. A shrub may appear on a plan like this _________.
4. ________ are easy to determine because the dimensions are given on a landscape plan.
5. Plan should include special features of the _________.
6. A good plan will include enough ______ ____ ______ for you to understand the designers scheme.

TEST ITEM 013-00-03

INSTRUCTIONS TO STUDENTS: From the list of words provided complete the following statements by inserting the correct answer(s) in the blank space(s).

hedges
beauty
utility
sun/shade
trees
private
odor
rest-relaxation-entertainment
pools and patios
public-private-service

1. In any landscape plan, the ______ and ______ ratio is important in plant selection.

2. Landscape plans should not have the fuel oil delivery going through the ______ area.

3. Prevailing wind direction is important in choosing homesites because of the possible ________ problems.

4. Ages and number of children in the family are important in designing ______ ______ and _______ areas.

5. _______ make the private area layout much easier.

6. _______ lines may detract from the beauty of the homesite if not screened from view.

7. Private areas could include ______ and ______.

8. Large ________ properly placed will effectively accent a homesite.

9. The purpose of private areas is to provide ______ ______ and ______ to the family.

10. Publicly viewed areas should present the maximum _______ of the homesite.

COMPETENCY 014. Identify and select lawn grasses and ground cover.

TEST ITEM 014-00-01

INSTRUCTIONS TO THE STUDENTS: From the list of words provided complete the following statements by inserting the correct answer(s) in the blank space(s).

shade
Kentucky bluegrass
zoysia
moisture
periwinkle
bermuda
soil
centipede
ground covers
tolerance

1. ________ type plays an important role in proper grass selection.
2. ________ is a warm season creeping lawn grass.
3. ________ has a high tolerance for drought.
4. Eastern N.C. is not a good spot for ______ ______.
5. ________ generates a deep rooted cushion of lawn grass.
6. ________ is an evergreen ground cover.
7. ________ of various grasses must be known if a proper choice is to be made in choosing a lawn grass.
8. ______ _______ are frequently used on slopes that are difficult to mow.
9. St. Augustine is very _______ tolerant.
10. High heat calls for more _________ for good lawns.

TEST ITEM 014-00-2

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN-B
_____ 1. Tall fescue	a. Requires a 5.5 pH
_____ 2. Centipede	b. Requires a pH of 6.5 to 7.0
_____ 3. Bermuda grass	c. Cool season grass
_____ 4. Kentucky bluegrass	d. Perennial spd-forming grass well adapted to Zone I

TEST ITEM 014-00-03

DIRECTIONS TO TEACHERS: Provide 10 ground cover specimens for students to identify.

INSTRUCTIONS TO STUDENTS: The student will identify 10 ground cover specimens and write correct name beside a numbered sheet of paper.

Materials Needed: 10 specimens
numbered paper

COMPETENCY 015. Establish the home lawn.

TEST ITEM 015-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. There are six turf grass regions in the United States.
_____ 2. Drainage is one of the main objectives of grading a lawn.
_____ 3. Excavated subsoil is more desirable than topsoil for a lawn.
_____ 4. Organic matter decreases aeration and water holding capacity of soils.
_____ 5. Nitrogen is the plant nutrient needed in greater quantity for lawns.
_____ 6. Inorganic forms of fertilizers are generally used during seedbed preparation.
_____ 7. Most lawn thrive best far below the neutral point of the pH scale.
_____ 8. Lime applications prior to seeding should be worked into the soil.
_____ 9. Nurse grasses germinate readily and grow fast.
____ 10. Fall sowed lawns should be mowed before winter.
____ 11. Seedbed preparation is important to both germination and stand.
____ 12. Seeding a mixture at the rate of 2 to 3 pounds per 10,000 square feet will usually result in a good stand.
____ 13. Sprigging is the planting of the individual plants, runners or stolons at spaced intervals.
____ 14. Stoloniferous grasses can be planted by plugging or sprigging during any part of the growing season.
____ 15. Mulching with light straw or hay aids conserving moisture.

TEST ITEM 015-00-02

INSTRUCTIONS TO THE STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Mulching	a. Refers to the movement of air and water through the soil
_____ 2. Organic matter	b. Raises the pH of the soil
_____ 3. Lime	c. Practice used to conserve moisture and control erosion until the seedlings are established
_____ 4. Permeability	d. Used to insure that nutrients are available when seedbed is planted
_____ 5. Starter fertilizer	e. Mixed with soil to prevent compaction

TEST ITEM 015-00-03

DIRECTIONS TO TEACHERS: Provide plot, seed, tools and equipment needed for preparing and seeding turf. Prepare observation list for each student to be tested.

INSTRUCTIONS TO STUDENT: Using materials provided, prepare seedbed and seed turf correctly.

Materials Needed;

Plot of Land
Tiller
Rakes
Seed
Lime
Fertilizer
Mulch
Water
Results of Soil Sample

COMPETENCY 016. Schedule and perform lawn maintenance duties including fertilization, mowing and pest control.

TEST ITEM 016-00-01

INSTRUCTION TO STUDENTS: In the following multiple-choice questions circle the letter of the most appropriate answer.

1. Lawn grasses generally require a fertilizer that contains more:

   a. Organic matter
   b. Nitrogen
   c. More Calcium
   d. Phosphorous

2. A complete fertilizer is one that contains:

   a. NPK
   b. CPK
   c. KPC
   d. None of the above

3. There are three types of push mowers used in maintaining lawns:

   a. Monofilament, standard and diesel
   b. Rotary, Reel and monofilament
   c. Gang, Disc and Harrow
   d. All of the above

4. Lawn may be watered by:

   a. Rain
   b. Irrigation
   c. Rain and irrigation
   d. None of the above

5. Annual weeds are weeds that:

   a. Die each year
   b. Live for 3 years
   c. Never die
   d. None of the above

6. A pre-emergence herbicide is one that:

   a. Is sprayed on after the weeds are at least 2" high
   b. Is put on before the weed seed germinate
   c. Is applied at time of mowing
   d. Is never put on the lawns

7. Insects are either:

   a. Chewing and biting
   b. Sucking or grubs
   c. Chewing or sucking
   d. Nematodes or rodents

TEST ITEM 016-00-02

INSTRUCTIONS TO THE STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. The best time to lime lawns is in the fall

_____ 2. The appropriate time to take a soil sample on lawns is in the fall

_____ 3. Nitrogen is the most important of all elements needed for grass growth

_____ 4. Centipede is an excellent cool season grass

_____ 5. Italian rye grass is an excellent cool season yard grass

TEST ITEM 016-00-03

INSTRUCTIONS TO TEACHERS: Provide students with turf areas different turfgrasses and have them mow them with proper mowers. Provide check list for evaluating each student.

INSTRUCTIONS TO STUDENTS: Mow assigned turf areas with assigned mowers using safety precautions.

Materials Needed:
- Rakes
- Mowers
- Baskets
- Safety goggles

COMPETENCY 017. Identify and select appropriate shrubs and trees for the homestead based upon their appearance and use.

TEST ITEM 017-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Vines and ground covers are all deciduous

_____ 2. Ornamental shrubs are classified as either deciduous or evergreen

_____ 3. A shrub used as a screen might be Photina

_____ 4. A Shore Juniper is an upright form of plant

_____ 5. Red spider is the name of a chinese holly

_____ 6. All trees are considered to be ones that are at least 60 feet high if they are to be used in landscaping

_____ 7. A conifer has large leaves

_____ 8. Pruning is the cutting back of a shrub to the ground

_____ 9. Helleri is a large shrub

____ 10. Azaleas are grown for their colorful blooms

TEST ITEM 017-00-02

INSTRUCTION TO STUDENTS: To the left of each statement write TRUE if statement is correct and FALSE if the statement is incorrect.

_______ 1. Helleri holly is an excellent foundation plant in North Carolina.

_______ 2. Forsythia is an early flowering border plant.

_______ 3. You can use ground covers in a landscape for locations that have 50 per cent shade.

_______ 4. The live oak is a large deciduous shade tree.

_______ 5. Pyracantha is an excellent plant to espalier in North Carolina.

TEST ITEM 017-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Helleri Holly	a. Screen plant
_____ 2. Shore Juniper	b. Foundation plant under window
_____ 3. Camellia	c. Ground cover
_____ 4. Crepe Myrtle	d. Specimen plant
_____ 5. Ligustrum	e. Small flowering tree

COMPETENCY 018. Plant shrubs and trees properly for the homestead site.

TEST ITEM 018-00-01

INSTRUCTIONS TO STUDENTS: Using the words provided in parenthesis at the end of each statement fill in the correct answer (s) in the blank spaces(s).

1. Shrubs may be purchased at a ________. (florist, hardware, nursery)
2. One of the disadvantages of purchasing shrubs through a catalog is that you cannot see the _________ shrub. (whole, live, green)
3. Mail order shrubs generally are shipped as _________ rooted shrubs. (bare, solid, close)
4. In the selection of a site to plant a shrub you should consider the ________ direction also. (sun, wind, highway)
5. You should dig the hole to plant the shrub in _______ than the balled plant. (larger, smaller, shallower)
6. You need to __________ a tree if there is a chance it will fall over. (prune, label, stake)
7. _________ should never be added to the roots of the shrub. (fertilizer, soil, water)
8. The best time to plant shrubs is in the __________ __________ months. (summer and fall, winter and spring, fall and winter)
9. You generally need only a _________ to plant a shrub. (hoe, rake, shovel)
10. Every shrub needs to be __________ at the time of planting. (pruned, watered, labeled)

TEST ITEM 018-00-02

INSTRUCTIONS TO THE STUDENTS: To the left of each statement write TRUE if statement is correct and FALSE is statement is incorrect.

______ 1. It is wise to construct a berm around newly planted trees when they are not dormant.

______ 2. It is a good practice to take soil samples in the fall and lime soils if needed.

______ 3. The best time to plant most shrubs is in the spring when new growth has just started.

______ 4. Tulip bulbs should be planted in February for best results.

______ 5. Timing and immediate transplanting are the two most important factors to be considered when transplanting perennials.

TEST ITEM 018-00-03

INSTRUCTIONS TO STUDENTS: in the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Bare root nursery stock should be planted:

   a. Before the leaves fall
   b. During the dormant season
   c. Before the leaves are fully mature
   d. None of the above

2. Bare root nursery stock should be:

   a. Slightly smaller than the root span
   b. Slightly larger than the root span
   c. About 3 feet across
   d. None of the above

3. Shrubs and trees are usually sold bare root are:

   a. Broad leaved evergreens
   b. Narrow leaved conifer
   c. Certain types of deciduous shrubs and fruit trees
   d. None of the above

4. Bare root shrubs are easier to ship than B and B shrubs because:

   a. They weigh less
   b. They can be tied in bundles
   c. There is no worry about leaves drying out
   d. All of the above

5. Bare root shrubs and trees may be stored prior to planting by a process known as:

   a. Freezing
   b. Heeling-in
   c. Propagation
   d. Dehydrating

COMPETENCY 019. Perform shrub and tree maintenance activities including fertilization, pruning and pest control.

TEST ITEM 019-00-1

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. A good rule to follow in pruning is:

   a. Cut anytime you feel like it
   b. Remove all material that you want to
   c. Have a logical reason for making each cut
   d. Always prune in the spring

2. Top pruning involves which of the following?

   a. Heading back
   b. Pulling up
   c. Thinning out
   d. A and c, but not b

3. The three cuts in order for removing a large limb are:

   a. Cut into top, undercut, cut off stub
   b. Cut off the stub, undercut, cut into top
   c. Undercut, cut into top, cut off stub
   d. None of the above

TEST ITEM 019-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____ 1. Slow release

_____ 2. Foliage spray

_____ 3. Broadcasting

_____ 4. Topdressing

_____ 5. Growth regulators

COLUMN B

a. A substance produced naturally by the plant and is actually a plant hormone. Relates to control or promotion of plant growth.

b. Process by which trace elements are applied to plant leaves.

c. Method of applying nutrients, especially nitrogen to the soil.

d. Term given to the application of a fertilization element, often nitrogen to plants.

e. A fertilizer prepared to become available to a plant over a period of time.

TEST ITEM 019-00-03

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. In horticulture, weeds are a __________.

2. Weeds compete with other plants for _________ , _________ and ___________.

3. Pests are responsible for __________ yields, reduced and quality and poor growth.

4. Pesticides may control pests by ___________ or __________ them.

5. Some pesticides work as _________ poisons, while other are _________ poisons.

COMPETENCY 020. Select fruit and nut plants for home use.

TEST ITEM 020-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Stewart	a. A variety of peach
_____ 2. Black Taratarian	b. A variety of strawberry
_____ 3. Rabbiteye	c. A blueberry variety
_____ 4. Mahau	d. Type of blueberry grouping
_____ 5. Earliblue	e. Pecan variety
_____ 6. Albrittain	f. A variety of pear
_____ 7. Tenn Beauty	g. A variety of cherry
_____ 8. Orient	h. A variety of grape
_____ 9. Belle of Georgia	
____ 10. Catawba	

TEST ITEM 020-00-02

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. The production, harvesting, and marketing of fruits known as ______ is a branch of horticulture.
2. Fruit crops are more dependent on ________ and ________ region than most other agricultural crops.
3. Cherries and blueberries grow best in _________ such as that in Michigan.
4. Careers in the pomology field involves two basic functions: Producing the fruit and _______ it.
5. Producing high quality fruit requires much experience and _____________.

TEST ITEM 020-00-03

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Dwarf varieties of fruit requires less harvesting labor.

_____ 2. Diseases of pecans is an important factor in the selection of a variety.

_____ 3. Some fruit and nut trees require more than one variety in the orchard to assure that the quality of fruit is improved.

_____ 4. Native persimmon trees are all male and no female trees exists.

_____ 5. All muscadine grape varieties have perfect flowers.

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COMPETENCY 021. Establish and maintain fruit and nut plants for the homestead considering planting, pruning, and pest control method.

TEST ITEM 021-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. During the planting year blueberry plants are not fertilized until the roots become established.

_____ 2. Soil pH is best for muscadines when it is 4.5.

_____ 3. Muscadine grape vineyards should be expected to bear 20 years or longer, therefore best varieties should be planted.

_____ 4. Figs should be planted in soil free of root knot nematode galls.

_____ 5. The top of the strawberry plant when planted should be slightly below the soil level.

TEST ITEM 021-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Strawberry plant blooms are removed the first year before they bear fruit while the flower is:

   a. In the bud stage
   b. Turning brown
   c. Setting fruit
   d. Not at all

2. Which of these is not a variety of figs:

   a. Celeste
   b. Brown turkey
   c. Brunswick magnolia
   d. Fayugake

3. The minimum distance recommended for setting standard pear tree varieties:

   a. 20 ft.
   b. 25 ft.
   c. 15 ft.
   d. 30 ft.

4. Fertilizer is not placed in the hole when planting fruit trees because:

   a. Growth stimulation is not rapid
   b. The tree metabolism is upset
   c. It causes root burn
   d. The pH is underbalanced by the fertilizer

TEST ITEM 021-00-03

INSTRUCTION TO STUDENTS. Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. At planting time bring the top of the tree in balance with the ________ system by proper pruning.

2. Pruning and _______ are necessary on apple, pear, cherry, and plum trees during the first three years.

3. A sprayer to attach to a ________ hose or a knapsack type are the smallest types and are satisfactory for one or two trees.

4. Clean cultivation and a _______ such as pine straw reduces weeds.

5. The most damaging problem for fruit trees is ________ .

COMPETENCY 022. Identify, describe and perform harvesting and handling methods of fruits and nuts for home use.

TEST ITEM 022-00-01

INSTRUCTION TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

______ 1. Hand harvesting of fruit is less likely to cause the injuries that you get with mechanical harvesting.

______ 2. Fruits should be harvested when they have reached the highest peak of ripeness.

______ 3. Nuts tend to keep better if they are allowed to cure out before storing.

______ 4. No matter how good the appearance, the edible quality, and the size of the fruit on the plant, it is of little value unless it has the characteristics that will enable it to reach the consumer in that condition.

______ 5. Firmness is the major factor that affects handling quality of most fruits.

______ 6. Ease of picking is often a good guide to determine when to harvest fruits.

______ 7. "Processing quality" of fruit is of little importance.

______ 8. Tree ripened fruits refers to fruits that are allowed to ripen on the trees.

______ 9. Tree-ripened fruit are always superior in taste, color, shelf life, handling and shipping qualities.

TEST ITEM 022-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. The most common method of food preservation today is:

a. Open kettle
b. Boiling water bath
c. Freezing
d. Preserving

2. Canning and freezing fresh fruits and vegetables is a rewarding and ________ way to preserve fresh foods:

a. Elaborate
b. Economical
c. Unusual
d. Expensive

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3. Undesirable changes frozen foods may undergo are:

   a. Ice formation during storage
   b. Salmonella development
   c. Botulism production
   d. Chemical action of certain enzymes and bacteria in the food

4. Undesirable changes improperly canned foods may undergo are:

   a. Mold formation
   b. Retention of nutrients
   c. Retention of color
   d. No action of certain enzymes and bacteria in the food

TEST ITEM 022-00-03

INSTRUCTION TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Blanch	a. A special method which is used with food containing very little natural acid.
_____ 2. Pasteurize	b. To cook foods either in a can or standard canning jar for a given length of time.
_____ 3. Process	c. To dip or plunge into boiling water for a given time.
_____ 4. Steam pressure method	d. A method of destroying bacteria by heating a liquid to a temperature of 142 to 145 degrees F. for approximately 30 minutes.
_____ 5. Hot pack	e. Acute food poisoning caused by a spore forming bacteria.
	f. Canning jars are filled with hot food and filled jars are processed in a water bath.
	g. A method of processing foods in steam under pressure at a temperature of approximately 240 degrees.

COMPETENCY 023. Identify and select appropriate floral plants for the homestead based upon their appearance and use.

TEST ITEM 023-00-01

INSTRUCTION TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____ 1. Annuals

_____ 2. Bedding plants

_____ 3. Biennals

_____ 4. Corm

_____ 5. Perennials

_____ 6. Tuber

_____ 7. Herbaceous

_____ 8.Bulbs

COLUMN B

a. A plant that lives for more than two years.

b. Short, thick, fat underground stem.

c. Round, with thick fleshy leaves.

d. Plants that complete life cycle in one year or less.

e. Thickened underground stem capable of producing roots, leaves and flowers.

f. Plants that complete life cycle in two years.

g. Plants with soft tissue.

h. All the flowering plants that you use for a short and brilliant color display.

TEST ITEM 023-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Which of the following is not a plant used for cut flowers:

   a. Chrysanthemum
   b. Rose
   c. Gladiolus
   d. Petunia

2. Which of the following plants may be used as bedding plants:

   a. Marigold
   b. Petunia
   c. Zinnia
   d. All of the above

3. Which of the following plants may come from root stock?

   a. Dahlia
   b. Coleus
   c. Petunia
   d. Fuschia

TEST ITEM 023-00-03

INSTRUCTIONS TO-STUDENTS: Indicate the height of the flowering plants are listed below in the chart below.

1. Lily-of-the-Valley
2. Dahlia
3. Bleeding heart
4. Manarda
5. Chrysanthemum
6. Babysbreath
7. Forget-me-nots
8. Marigold
9. Petunia
10. Zinnia

COMPETENCY 024. Incorporate flowers into the homestead and maintain properly.

TEST ITEM 024-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement in incorrect.

_____ 1. Flower beds, should be located where the plants will receive at least ½ day of full sun.

_____ 2. Soil for flowers should be well drained.

_____ 3. Tall growing flowers should be placed near the front of the flower bed.

_____ 4. Short, brilliant colored flowers should be placed near the front of the flower bed.

_____ 5. Border flowers maybe used to encircle the flower bed.

_____.6. Flower beds always should be watered each day.

_____ 7. Mulching flower beds helps to reduce evaporating, insulates roots and inhibits weed growth.

_____ 8. Flower beds should be weeded daily.

_____ 9. Flower beds should be "lightly" fertilized each month during growth season.

____ 10. "Pinching back" helps to keep plants bushy.

TEST ITEM 024-00-02

INSTRUCTION TO STUDENTS: Match each statement in COLUMN B with the most appropriate term in COLUMN A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Iris	a. Rhizomes
_____ 2. Tulips	b. Corms
_____ 3. Dahlia	c. Rootstock
_____ 4. Airplane Plant	d. Stolons or Runners
_____ 5. Crocus	e. Bulbs

TEST ITEM 024-00-03

INSTRUCTIONS TO STUDENTS:

DIRECTIONS TO TEACHERS: Provide bedding plants, planting site tools and other materials for students. Prepare observation check-list for evaluating each student.

INSTRUCTION TO STUDENT: Plant bedding plants in designated area.

Materials Needed: Plant materials fertilizer, appropriate tools.

COMPETENCY 025. Identify and select appropriate house plants for the homestead.

TEST ITEM 025-00-01

INSTRUCTIONS TO STUDENTS: Listed below are 10 plants. Indicate by a check ( ) mark those used as house plants.

_____ 1. Dieffenbachia
_____ 2. Carpet Grass
_____ 3. Philodendron
_____ 4. African Violet
_____ 5. Sycamore Tree
_____ 6. Sansevieria
_____ 7. Compacta Holly
_____ 8. Dracaena
_____ 9. Begonia
____ 10. Broccoli

TEST ITEM 025-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____ 1. Narcissus
_____ 2. Ferns
_____ 3. Weeping Fig
_____ 4. Airplane Plant
_____ 5. Exacum

COLUMN B

a. Foilage plant grown in hanging baskets.
b. Plants identified by fronds.
c. Potted flower with small violet flower.
d. Bulbs that can be forced to bloom indoors.
e. An indoor tree.

TEST ITEM 025-00-03

DIRECTIONS TO THE TEACHERS Provide plant materials, rooting media and tools and equipment needed to make root cuttings. Prepare observation check list for testing each student.

INSTRUCTIONS TO STUDENTS: Using the plant materials provided, make and root 25 cuttings using correct procedures.

Material Needed: Plant material
Rooting media and space
Rooting hormone
Pruning shears

COMPETENCY 026. Grow and maintain house plants.

TEST ITEM 026-00-01

INSTRUCTIONS TO TEACHERS: Provide students house plants and appropriate materials for growing plants indoors. Prepare an observation check list as a guide for testing each student's ability to pot 5 indoor plants.

INSTRUCTIONS TO STUDENTS: Using materials provided pot 5 plants.

Material Needed: Plants
Pots
Potting soil
Appropriate tools

TEST ITEM 026-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

______ 1. Humidity is an important environmental factor when growing house plants.

______ 2. The soil medium recipe should remain the same for all house plants.

______ 3. Fertilize all house plants once a month.

______ 4. Many house plants can be propagated by germinating seed at home.

______ 5. Mealy bugs are insect pest found on house plants.

TEST ITEM 026-00-03

DIRECTIONS TO TEACHERS: Provide plants, soil, tools and other materials for the construction of a hanging basket. Prepare observation check-list for each student to be tested.

INSTRUCTIONS TO STUDENT: Using the materials provided, construct a hanging basket.

Materials Needed Plant material
Soil
Basket and accessories
Tools

COMPETENCY 027. Identify tools needed in the homestead and garden.

TEST ITEM 027-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Pruning shears	a. Masonary
_____ 2. Open-end-wrench	b. Mechanics
_____ 3. Conduit bender	c. Horticulture
_____ 4. Pipe wrench	d. Plumbing
_____ 5. Trowel	e. Wood working
_____ 6. Cross cut saw	f. Electricity

TEST ITEM 027-00-02

INSTRUCTIONS TO STUDENTS: Match each statement on Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B	
1. Pruning saw	a. A small compact disc for growing plants.	b. A saw for pruning tree limbs.
2. Jiffy 7 pellet	c. Used for small pruning jobs.	d. Used to dig holes for transplanting shrubbery.
3. Pruning shears	e. Used for raking leaves.	f. Long handled tool used for pruning.
4. Leaf rake		
5. Shovel	g. Used to clamp metal together.	h. Used for cutting thin metal.
6. "C" clamp	i. Appropriate to hang a plant for the ceiling.	
7. Screw eye		
8. Tin shears		
9. Lopping shears		

TEST ITEM 027-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Ground clamp	a. Used in masonery work
_____ 2. Spark plug socket	b. Join electric wires
_____ 3. Thickness gauge	c. Used to fuse metal
_____ 4. Fuse puller	d. Ground electric welder
_____ 5. Planer	e. Mark off areas
_____ 6. Trowel	f. Insert and remove plugs from cylinder
_____ 7. Chalk line	g. Used to set gap in points
_____ 8. Electrodes	h. Used in drawing plans
_____ 9. T-square	i. Used to finish lumber
____ 10. Solderless connector	j. Used to remove cartridge fuses

COMPETENCY 028. Demonstrate the safe and correct use of homestead and gardening tools.

TEST ITEM 028-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Loose or oversize clothing should not be worn while working with electric power tools or lawn mowers.

_____ 2. Goggles and hard-toe shoes are not required when working with cordless power tools or lawn mowers.

_____ 3. Power tools designed to cut metal should be operated with all guards and shields in place.

_____ 4. When a safety switch on a mower or power tool malfunctions, it should be "straight-wired" to by-pass the bad switch in order to complete the task.

_____ 5. Reflectors and slow-moving emblems should be displayed only on portable equipment that requires a Department of Motor Vehicles license tag.

TEST ITEM 028-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. File	a. The major hazard is allowing the heads to become mushroomed.
_____ 2. Screwdriver	b. Without a handle on the tang it is an invitation for trouble.
_____ 3. Knives	c. Are not the correct tool to use to loosen or tighten bolts.
_____ 4. Chisels	d. A sharp one is safer than a dull one because less pressure is necessary in using it.
_____ 5. Wrenches	e. Most frequent cause of accidents is that it does not fit the nut being tightened or loosened.
_____ 6. Pliers	f. Are not made to used as chisels, crowbars, hammers, or spark testers.

TEST ITEM 028-00-03

INSTRUCTIONS TO TEACHERS: Set up work station. Provide instructions for completing the activity. Assess student performance with observation check list.

INSTRUCTIONS TO STUDENTS: Demonstrate the safe use of the following tools:

1. Hammer - drive a nail in the board provided
2. Handsaw - cross cut the board 3 inches from the end
3. Wood chisel - bevel one end of the board on a 45 degree angle using the wood chisel
4. Jack plane - smooth out the bevel

COMPETENCY 029. Demonstrate the safe and correct procedure for maintenance and storage of hand and power tools.

TEST ITEM 029-00-01

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting correct answer(s) in the blank space(s).

1. In sharpening blades and cutting edges on power and rotary cutters. a _____ ______ should be worn to protect the face and eyes, and _________ _________ should be worn to protect the hands and arms.

2. ________ ___________ are designed to transfer grease from grease gun to areas of possible wear to reduce _________.

3. Hand and power tools should be _______ or ________ and stored in protective cases or racks while not in use.

4. Draining fuel from tanks of gasoline engines can prevent a build up of ________ __________ and also help prevent _______ _______ while in storage.

5. Tools and machinery in need of simple repair or maintenance should be reconditioned according to the ________ _________ or repair instructions received from instructor.

TEST ITEM 029-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. "Playing around" and teasing or annoying other workers in an agricultural mechanics shop may result in a serious accident.

_____ 2. Proper dress is not important for safety in a shop.

_____ 3. Color coding may be used to make a shop a safer place to work.

_____ 4. A student should not use tools, especially power tools, until he has received instruction regarding their safe use.

_____ 5. Gloves should be worn while operating a power saw.

TEST ITEM 029-00-03

INSTRUCTION TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space at the left of the term.

COLUMN A

_____ 1. Auger bit file

_____ 2. Oil stone

_____ 3. Cold chisel

_____ 4. Round file

_____ 5. Plane iron

COLUMN B

a. Sharpen on an angle of 65 degrees.

b. Tool used to sharpen the cutting edge of auger bits.

c. Whetting angle - 30 to 35 degrees

d. Stone used for sharpening tools

e. Used to sharpen chain saws

COMPETENCY 030. Determine the proper size and type of lawn mower for various lawn needs.

TEST ITEM 030-00-01

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. Riding lawn mowers are power units ranging from _____ to _____ horsepower mounted with a mower attachment.

2. Lawn and garden tractors are often referred to as compact tractors, ranging in size from _____ to _____ horsepower and are capable of mounting and using a variety of tools and equipment.

3. Large tractors, ranging from _____ to _____ horsepower or more, are most often used on golf courses, parks, school and college campuses, highway mowings, etc.

4. Three general kinds of power units used on ground keeping and ornamental horticulture tractors are ______ ______ engines, ______ ______ engines, and ______ motors.

5. Three of the most common uses for tractors in ground keeping and ornamental horticulture are ________, ________, and ________ .

TEST ITEM 030-00-02

INSTRUCTION TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. There are two principles types of lawn mowers - those with rotary horizontal blades and the reel type.

_____ 2. Lawn mowers are generally adjusted for the height of cutting.

_____ 3. To raise the height of cutting on a rotary mower, you lower the wheels.

_____ 4. To raise the wheels of a rotary mower you will also lower the cutting height of the mower.

_____ 5. A reel type mower has two adjustments - bedknife and roller.

TEST ITEM 030-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Rotary mower	a. Reel generally run by hydraulic motors
_____ 2. Gang mower	b. Reel mowers hooked side by side
_____ 3. Reel mower	c. Mower that cuts grass by a reel
_____ 4. Hydraulically powered reels	d. Cuts grass with a horizontal rotary blade.
_____ 5. Aerifying machine	e. Removes soil cores

COMPETENCY 031. List five safety rules for lawn mower use.

TEST ITEM 031-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE If the statement is incorrect.

_______ 1. Always check underneath the mower for obstructions before starting the engine.

_______ 2. When mowing on a hill you should always push the mower up the grade.

_______ 3. When mowing in tall grass you should check for hidden objects prior to starting the mowing task.

_______ 4. When using a push mower it is safe to go bearfooted and wear shorts.

_______ 5. It is all right to use lawn mowers with the guards and safety switches disconnected.

TEST ITEM 031-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. When adding gasoline to the mower tank when the engine is hot:

   a. A funnel is needed.
   b. The engine should be allowed to cool.
   c. A time of 30 minutes should elapse.
   d. Neither of the above.

2. In working with mowers that have grass catchers the operator should:

   a. Stop the mower to remove the filled bag.
   b. Place the mower at idle speed and remove the bag.
   c. Leave the mower running at regular speed and remove the bag.
   d. None of the above.

3. To avoid damage to the ear drums from the mower noise one should:

   a. Wear a cap with ear flaps.
   b. Wear ear muffs.
   c. Put cotton in your ears.
   d. Do nothing.

4. When working on the mower engine it is important to:

   a. Place the throttle in neutral.
   b. Drain the gas tank.
   c. Remove the spark plug.
   d. Remove the spark plug wire from the spark plug.

TEST ITEM 031-00-03

INSTRUCTION TO STUDENTS: To the left of the statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

______ 1. PTO safety shields protect the operator from the turning PTO shaft.

______ 2. The PTO shield can be removed while the shaft is turning without danger

______ 3. The PTO shield should be removed when it is bent.

______ 4. Present OSHA safety standards do not require manufactures to install safety shields on equipment.

______ 5. PTO shafts present no safety hazard to the tractor operator when approved shields are used.

COMPETENCY 032. Demonstrate the correct use of lawn mowers.

TEST ITEM 032-00-01

INSTRUCTIONS TO TEACHERS: Establish a work site with instructions and materials needed for the student to complete the designated task. Use a check list for observation scoring.

TASK: Start and stop the lawn mower using correct maintenance and safety procedures.

INSTRUCTIONS TO STUDENTS: Start and stop the lawn mower using correct procedures.

Materials Needed: Lawn Mower
Clear area with proper ventilation

OBSERVATION CHECK-LIST:

______ 1. Check gas and oil before starting.
______ 2. Correct the setting on the throttle.
______ 3. Check for observations underneath and around the mower.
______ 4. Starting procedure; Foot placement, grasp of starting rope and pull.
______ 5. Readjustment of throttle after starting.
______ 6. Correct stoppage of engine.

TEST ITEM 032-00-02

DIRECTIONS TO TEACHERS: Set up work test station. The station should contain instructions and all materials needed by the student to complete the task identified. Use an observation check-list for each student to be assessed.

INSTRUCTION TO STUDENTS: Make adjustments to the idling speed of a small gasoline engine so it will operate smoothly. Time given: 5 minutes

Materials Needed: Small gasoline engine
Screwdriver

OBSERVATION CHECK-LIST:

_____ 1. Start engine and warm up to operating temperature.
_____ 2. Set speed-control lever to retarded (closed) position.
_____ 3. Locate idling speed adjustment.
_____ 4. Adjust idling speed.

TEST ITEM 032-00-03

DIRECTION TO TEACHER: Have each student adjust reel type mower and rotary type mower. Prepare check list for each student.

INSTRUCTION TO STUDENTS: Using the mowers provided, make adjustments as directed by teacher check list.

COMPETENCY 033. Perform basic lawn mower maintenance jobs.

TEST ITEM 033-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. The oil level in a small engine should be checked each time an engine is used.

_____ 2. Air cleaners should be serviced each 24 hours of operation.

_____ 3. The operators manual should be used in preparing a preventive maintenance schedule for an engine.

_____ 4. It is best to change oil when the small engine is cold.

_____ 5. Ignition points and spark plugs should be changed at least every 25 hours of operation.

_____ 6. The air cleaner should be checked every day when using under dusty conditions.

_____ 7. When installing a new spark plug, it is not necessary to gap the plug because the factory has already set the gap.

TEST ITEM 033-00-02

INSTRUCTION TO STUDENTS: Match each statement in COLUMN B with the most appropriate term in COLUMN A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Grade of oil	a. Materials added to oil to improve its physical or chemical properties.
_____ 2. Multi-grade oil	
_____ 3. Additive	b. Determined by viscosity or ability to flow test.
_____ 4. Viscosity	c. Used to prevent oxidation in greases.
_____ 5. Anti-oxidant	d. Oil not readily affected by temperature changes
	e. Term used to describe how fluid an oil is.

COMPETENCY 034. Prepare and properly store a lawn mower.

TEST ITEM 034-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement, write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. The operator's manual should be used in preparing a preventive maintenance schedule for an engine.

_____ 2. The air cleaner should be checked every day when using an engine under dusty conditions.

_____ 3. The key to preventive maintenance is not using the engine very often.

_____ 4. Warming-up an engine before putting it under a full load will increase its useful life.

_____ 5. Always cut the engine off after using it for a heavy load so that it will cool quickly.

_____ 6. Proper adjustment of parts is included in preventive maintenance.

_____ 7. Unnecessary wear is prevented by proper lubrication at the right time.

TEST ITEM 034-00-02

INSTRUCTION TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. A ______ _______ type air cleaner should not be cleaned with solvents.

2. _______ _______ type air filters should have a small amount of oil in them when replaced.

3. ______ ______ type air filters have a cup on the bottom which holds oils to cleanse the air.

4. ______ ______ should be disconnected before servicing the air cleaner.

5. _______ should not be used as a solvent for washing filters.

TEST ITEM 034-00-03

INSTRUCTIONS TO TEACHERS: Set up a classroom with instructions needed and materials needed for the students to complete the task as identified.

TASKS: Write out or prepare a preventive maintenance schedule for a 3 hp 4-cycle engine

INSTRUCTIONS TO STUDENTS: Given the owner's manual and resource material on small engine, write out a preventive maintenance schedule listing what needs to be done and what time sequence to do the jobs. Time limit 30 minutes.

Materials Needed : Paper
Owner's Manual
Small engine resource material

OBSERVATION CHECK-LIST

_____ 1. Change oil every 25 hours operation.

_____ 2. Check oil level daily.

_____ 3. Service air filters every 25 hours.

_____ 4. Tune engines annually.

_____ 5. Clean engine annually.

_____ 6. Prepare for storage annually.

COMPETENCY 035. Determine the proper size of garden tractors and tillers for various garden needs.

TEST ITEM 035-00-01

INSTRUCTIONS TO STUDENTS: To the left of the statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. During the last several years tillers have been improved by equipping them with a chain drive.

_____ 2. Chain drive tillers do not have a reverse gear.

_____ 3. Tiller tine widths and tine diameters vary with the make of the tiller.

_____ 4. One model of tiller has only one wheel in front with a disc on each end of the tines.

_____ 5. Tillers that have tines in the rear have not proven satisfactory and efficient.

TEST ITEM 035-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
1. Cub Cadet Model 030	a. Ideal small tillers for garden areas where work space is at a premium. 3 HP/ 18" width.
2. The "Minnie"	b. 8 HP/5 speed with reverse direction tines.
3. The "Scotsman"	c. Top quality, low priced tiller for home gardeners. Equipped with 2 HP engines.
4. Cub Cadet 412	d. 3.5 HP engine with chain drive, 2 forward speeds and a reverse.
5. Honda F400 A2	e. Ideal for gardener with a larger garden. Equipped with 1 3 HP engine.

TEST ITEM 035-00-03

INSTRUCTION TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. A ________ horse power tiller is of adequate sized for a garden site that measures 30 X 30.

2. It is important that the tiller have ______ tines in order to till narrow rows.

3. Gardens that cover ¼ to ½ acre would require a tiller of ______ horse power or greater and preferably one that can b e ridden.

4. Large gardens can be _______ more easily if the tillers have a reverse gear.

5. ________ efficiency would be a desirable feature of tillers.

COMPETENCY 036. List five safety rules for garden tractors and tillers.

TEST ITEM 036-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. Hands, feet and loose clothes should be kept a safe distance from all moving parts of tractors and tillers.

_____ 2. Wear loose clothes for comfort when you operate a tractor or tiller.

_____ 3. It is best to keep guards, covers, and hoods in place on tractor and tillers.

_____ 4. When operating a tractor, it is wise to have only one person on the tractor.

_____ 5. Before starting a tractor or tiller make sure that the engine is set in neutral.

_____ 6. It is good judgement to till up or down a hill too steep for safe operation.

TEST ITEM 036-00-02

INSTRUCTION TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. When adding ________ to a tiller tank the engine should be cold.
2. The tiller should be _______ _______ ________ when it is started.
3. A tiller should not be _______ _______ unattended.
4. _______ should be exercised when operating a tiller around children.
5. Refrain from _________ the _________ when it is hot.

TEST ITEM 036-00-03

INSTRUCTION TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. The spark plug wire should be disconnected before repairing starters.

_____ 2. Rope rewind starter should be greased frequently.

_____ 3. Instructions on repairing starters are usually found in service or owners manuals.

_____ 4. Wind up starter springs are stronger than rope rewind starter springs.

_____ 5. It is not necessary to clamp the starter when working on it.

COMPETENCY 037. Demonstrate the correct use of garden tractors and tillers.

TEST ITEM 037-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement, write TRUE if the statement is correct, or FALSE if the statement is incorrect.

______ 1. Use the operator's manual for correct oil to use in the crankcase.

______ 2. There are two types of oil filtering systems on small engines.

______ 3. It is not necessary for the engine to be stopped to change the oil.

______ 4. Crankcase oil should be changed every 25 hours in a small engine.

______ 5. Wheel-bearing grease should be used in all grease fillings.

TEST ITEM 037-00-02

INSTRUCTIONS TO TEACHERS: Set up a work station containing instructions and all materials needed by the student to complete the task as identified. Use observation check list for assessing student performance.

INSTRUCTIONS TO STUDENTS: Using materials provided, properly rewind the recoil spring and install a new rope on a recoil starter of a small engine. Time: 30 minutes.

Materials Needed:

Small engine with recoil starter
Vise grip pliers
7/16" combination wrench
Long nose pliers
6" phillips head screwdriver
4" vise
3/4" square stock 5" long
Gloves
Rope
Cleaning rags

OBSERVATION CHECK LIST
______ 1. Remove and secure the starter.
______ 2. Remove the pulley for the rope.
______ 3. Remove, clean and straighten spring.
______ 4. Attach spring to pulley.
______ 5. Wind the coil spring.
______ 6. Attach rope to pulley and release.
______ 7. Install starter and check for proper.
______ 8. Observe operation safety precautions.
______ 9. Complete in time limit.

TEST ITEM 037-00-03

INSTRUCTIONS TO TEACHERS: Set up work test station. The station should contain instructions and all materials needed by the student to complete the task identified. Use an observation check list for each student to be assessed.

INSTRUCTIONS TO STUDENTS: Remove the air cleaner from the engines, clean all parts, service and replace in proper position. Time given: 20 minutes.

Materials Needed:
Cleaning rags
Container
Cleaning solvent
Set of open-end wrenches
Stick - 1/2" X 3/4" X 3'
Screwdriver
Pliers
Cup or pitcher
Oil for air cleaner
Engine with oil bath air cleaner
Air cleaner
Operator's manual

OBSERVATION CHECK LIST

_____ 1. Removed cleaner properly.

_____ 2. Used correct cleaning solvent and cleaned filter.

_____ 3. Cleaned pre-cleaner.

_____ 4. Selected proper weight oil cleaner by using operator's manual.

_____ 5. Filled oil cup and reassembled cleaner properly.

_____ 6. Use proper tools.

_____ 7. Cleanliness.

_____ 8. Inspected all connections and hoses.

COMPETENCY 038: Perform basic maintenance on garden tractors and tillers.

TEST ITEM 038-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement, write TRUE if the statement is correct or FALSE if the statement is incorrect.

______ 1. Use the operator's manual for oil to use in the small engine crankcase.

______ 2. There are two types of oil filtering systems on small engines.

______ 3. It is not necessary for the engine to be stopped to change the oil.

______ 4. Crankcase oil should be changed every 25 hours in a small engine.

______ 5. Wheel-bearing grease should be used in all grease fillings.

______ 6. It is best to change oil when the small engine is cold.

TEST ITEM 038-00-02

DIRECTIONS TO TEACHERS: Set up work station containing instructions and all materials needed by the student to complete the task identified. Use observation check list for each student to be assessed on performance.

INSTRUCTIONS TO STUDENTS: Using the proper tools, materials and procedures, clean a small engine and inspect the cooling system while cleaning. Time limit is 50 minutes.

Materials Needed:
Small engine needs cleaning
Wooden scrape
Putty knife
Fiber bristle brush
Water hose and nozzle
De-greaser or petroleum solvent
Slotted and phillips screwdriver
Socket set
Combination wrenches
Nut driver 1/4" X 3/8"
Wire brush
Pail
Parts cleaning brush
Air compressor

OBSERVATION CHECK LIST:

_____ 1. Observe safety precautions.
_____ 2. Remove necessary parts.
_____ 3. Use of proper materials.
_____ 4. Cleaning in proper sequence.
_____ 5. Recognizing any defects in cooling system.
_____ 6. Replace parts properly.
_____ 7. Complete task within time limitation.

TEST ITEM 038-00-03

INSTRUCTIONS TO TEACHERS: Set up work station. The station should contain instructions and all materials needed by the student to complete the task identified. Use an observation list for each student to be assessed.

INSTRUCTIONS TO STUDENTS: Drain oil from the crankcase of a garden tractor and replace with new oil. Time given: 15 minutes.

Materials Needed: Wrench for drain plug
Clean rags
New oil of grade recommended
Container for old oil

OBSERVATION CHECK LIST:

_____ 1. Operate engine until thoroughly heated.

_____ 2. Remove drain plug

_____ 3. Allow to drain for several minutes.

_____ 4. Replace drain plug.

_____ 5. Refill crankcase with new oil.

_____ 6. Start engine and operate for a few minutes at low rpm.

_____ 7. Check for oil leaks.

_____ 8. Check oil level on dip stick on dipstick if available.

COMPETENCY 039. Describe the proper storage of the garden tractor and tiller.

TEST ITEM 039-00-01

INSTRUCTIONS TO STUDENTS: To the left of the statement, write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. The only reason to clean small engines is so that they will look good.

_____ 2. A clean engine is more apt to cool properly than a dirty engine.,

_____ 3. Gasoline is a good solvent for cleaning engines.

_____ 4. External parts should not be removed when cleaning small engines.

_____ 5. An advantage of cleaning small engines is to reveal any parts that might have become defective, loose, or broken.

TEST ITEM 039-00-02

INSTRUCTION TO STUDENTS: To the left of each statement place a number representing the sequence in which that step should be done when cleaning and inspecting cooling systems on small engines.

A. ________ Clean inside of shroud, baffles and screen.

B. ________ Remove blower shroud, baffles and air reflectors.

C. ________ Replace broken or damaged parts.

D. ________ Inspect engine for cracks, blemishes or broken parts.

E. ________ Clean dirt from cylinder fins and blower flywheel fins.

F. ________ Reassemble parts.

G. ________ Shut off fuel system and disconnect sparkplug.

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TEST ITEM 039-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in COLUMN B with the most appropriate term in COLUMN A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Flywheel puller	a. Te set gap in spark plugs and ignition points.
_____ 2. Piston ring compressor	b. To remove and replace piston rings
_____ 3. Valve spring compressor	c. To remove valve springs
_____ 4. Thickness gauge	d. To test engine compression
_____ 5. Compression tester	e. For removing flywheel

COMPETENCY 040: Define the meaning and describe the use of basic electrical terms.

TEST ITEM 040-00-01

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Circuit
   - a. Two wires joined together
   - b. Pipe through which water flows
   - c. Path followed by electrons
   - d. Method of generating electricity

2. Insulation
   - a. Measures current flow
   - b. Prevents escape of electrons
   - c. Used to conduct electrons
   - d. Pushes electrons through circuit

3. Watt
   - a. Unit of measure of electric energy
   - b. Process of generating electricity
   - c. Number of alternating currents
   - d. Instrument for measuring current

4. Volt
   - a. Measure of electrical pressure
   - b. Regulates current flow
   - c. Blocks flow of electric current
   - d. Describes use of electrical terms

TEST ITEM 040-00-02

INSTRUCTION TO STUDENTS: Match each statement in COLUMN B with the most appropriate term in COLUMN A. Record The letter in the space to the left of the term.

COLUMN A

_____ 1. Connector

_____ 2. Meter

_____ 3. Fuse

_____ 4. Service entrance switch

_____ 5. Junction box

_____ 6. Conduit

_____ 7. Nonmetallic trench wire

_____ 8. Service entrance cable

____ 10. Transformer

COLUMN B

a. Two or more wires inside an overall cover

b. Safety device

c. Thin-walled steel pipe

d. Records amount of current used

e. Decreases voltage from main line

f. Connects wiring system to source of supply

g. Fastens cables to outlet boxes

h. Wires laid underground

i. Box with blank cover

j. Brings electricity into a building

TEST ITEM 040-00-03

INSTRUCTION TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Type of current that consists of only alternating current

   a. Three-phase current
   b. Direct current
   c. Amperes
   d. Single phase current

2. A material that allows electricity to move easily

   a. Conductors
   b. Insulator
   c. Kilowatt
   d. Fuse

3. A unit of electrical measure equal to 1000 watts

   a. Horsepower
   b. Electrons
   c. Kilowatt
   d. Watt

4. Rubber is an example of

   a. Conductor
   b. Insulator
   c. Ampere
   d. Kilowatt

5. The unit of measure by which electrical energy is sold

   a. Watts
   b. Amperes
   c. Volts
   d. Kilowatt-hour

COMPETENCY 041. Acquire basic safety procedures for working with electricity.

TEST ITEM 041-00-01

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. Each year, for every 100 accidental deaths, ______ are the result of electrical shock.
2. Electrical fires destroy over _______ million dollars of property each year.
3. Make sure the power is off before adjusting or servicing an electrical outlet or appliance. If you have any doubts, use a _______ to determine if the power is off.
4. ________ is a good conductor of electricity, so be cautious when electrical power tools are used in damp areas.
5. The _______ wire is the "hot" wire and it may be switched or fused.
6. The _______ wire is the grounding wire or identified conductor and it should never be switched or fused.
7. The _______ wire is the equipment ground wire, it helps prevent the operator from being shocked.
8. ________ and fuses are used to protect electrical equipment from too much amperage, short circuits, and overheating.
9. A ________ is a devised designed to fail if exposed to too much amperage.
10. A circuit breaker will ________ when a circuit is overloaded.

TEST ITEM 041-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. The meanings of the letter "UL" on electrical devices

   a. Under line
   b. Upper line
   c. Underwriter's Laboratories
   d. None of the above

2. Number of persons in the United States killed by electricity each year.

   a. 500
   b. 1000
   c. 5000
   d. 10, 000

3. Property damage reported annually due to electrical fires.

   a. $5 million
   b. $10 million
   c. $1 billion
   d. $100 million

4. Major causes of electrical fires.

   a. dangling electric wires
   b. children
   c. overload circuits
   d. careless use

5. The maximum load allowed on a No. 12 wire

   a. 2300 watts
   b. 1500 watts
   c. 1000 watts
   d. 500 watts

TEST ITEM 041-00-03

DIRECTIONS TO TEACHERS: Set up work test station and provide instructions and all materials needed by the student to complete the task identified. Use observation check list for each student to be assessed on performance.

MATERIALS NEEDED: Screwdriver
Knife
Wire Stripper
Lineman's pliers
Electrical code book
Extension cord

TASK: Repair an extension cord.

INSTRUCTION TO STUDENTS: Using the materials provided, repair an extension cord to meet the latest electrical code standards. You have 30 minutes to complete the job.

Credit Allowed	Observation check list
20 ________	1. Select correct tools for job
20 ________	2. Determine damage to cord
20 ________	3. Step in repair process
20 ________	4. Completed repair job
20 ________	5. Observe safety precautions
100 ( )	

COMPETENCY 042. Select electrical repair parts and appropriate tools.

TEST ITEM 042-00-01

INSTRUCTION TO STUDENTS: Complete the following statement by inserting the correct answer(s) in the blank space(s).

1. The outlet for plugging in most small appliances is a _______ ________.

2. The switch which controls a light from one location is a ________ switch.

3. A light which may be controlled from two locations is connected to a ______ __________ ____________ switch.

4. ________ _________ are used to remove insulation from electrical wires.

5. _______ ________ pliers are helpful for making loops on the end of an electrical wire.

6. Wire size is referred to by _________ ___________.

7. Fuses and circuit breakers are located in the ________ __________.

8. A _________ __________ is used to determine whether the power is off.

TEST ITEM 042-00-02

INSTRUCTION TO STUDENTS: Identify the following tools use in electrical wiring Follow the teachers directions.

a. ________________

b. __________________

c. ________________

d. ________________

e. __________________

f. _______________

g. ________________

h. __________________

i. _______________

j. ________________

TEST ITEM 042-00-00

INSTRUCTION TO STUDENTS: Identify the following devices. Follow the teachers directions.

a. ____________________ b. ____________________ c. ____________________

d. ____________________ e. ____________________ f. ____________________

g. ____________________ h. ____________________ i. ____________________

j. ____________________

COMPETENCY 043. Make basic home electrical repairs

TEST ITEM 043-00-01

INSTRUCTIONS TO THE STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. The purpose of circuit breakers:

   a. Protect wiring against overload
   b. Gives an on-and-off switch
   c. Maintains current sources in case of short circuit
   d. None of the above

2. The purpose of the three-way switch

   a. Control light from 3 locations
   b. Control light from 1 location
   c. Control light from 2 location
   d. Control light from 4 locations

3. Used on the ends of wires twisted together in light fixtures:

   a. Electrical tape
   b. Insulation
   c. Hold-down screw
   d. Wire nuts

4. The first job of an electrician before making electrical repairs:

   a. Remove part to be replaced
   b. Cut off the current
   c. a. and b. above
   d. None of the above

5. If a florescent lamp has a gray band about 3 inches from either base:

   a. Normal on some lamps
   b. Lamp is worn out
   c. Lamp nearing end of life
   d. None of the above

TEST ITEM 043-00-02

INSTRUCTION TO STUDENTS: In the following mutiple-choice questions, circle the letter of the most appropriate answer.

1. Which of the following tools is not needed to install a receptacle:

   a. Screwdriver
   b. Long-nose pliers
   c. Knife or wire stripper
   d. Hammer

2. An error in connecting receptacles will usually cause a :

   a. Fire
   b. Short circuit
   c. Explosion
   d. Power failure

3. When replacing a switch, to be safe the power should be turned off by:

   a. Turning the switch off
   b. Taking the wires looses
   c. Turning off the circuit breaker
   d. Having power company throw main line

4. The most common receptacle is:

   a. The duplex type
   b. The triplex type
   c. The single type
   d. Range outlet

5. The best quality receptacle are the:

   a. Most expensive ones
   b. Ones with the contact strips
   c. Ones approved by Carolina Power & Light Co.
   d. Ones with single strips

TEST ITEM 043-00-03

INSTRUCTIONS TO STUDENTS: Following the directions given by your instructor install a receptacle, a switch, and a fuse.

COMPETENCY 044. Determine the proper types and size of sprayers, dusters, and granular applicators for home and garden needs.

TEST ITEM 044-00-01

INSTRUCTION TO STUDENTS To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_______ 1. A pest may be a troublesome animal, insect, plant or plant disease.

_______ 2. All adult insects have two body sections.

_______ 3. All insects are harmful and should be destroyed.

_______ 4. A plant disease is a harmful condition that makes a plant abnormal in appearance or function.

_______ 5. Animals with backbones are called vertebrates and are not considered pests.

TEST ITEM 044-00-02

INSTRUCTION TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
________ 1. Bucket or Trombone	a. In a spray can under pressure
________ 2. Garden hose	b. Squeeze trigger to pump liquid from container.
________ 3. Aerosol	c. As wheel turns pesticide is released.
________ 4. Trigger pump	d. Bucket sprayer

________ 5. Push pull hand pump e. Attaches to end of garden hose

________ 6. Wheel drawn f. Pull the handle and push to release pesticide.

TEST ITEM 044-00-03

DIRECTIONS TO TEACHER Identify a situation indicating a need for pest control. Provide pesticide application equipment and safety equipment to use for proper and safe application. Prepare a check list to fit the situation which will indicate selection of proper pesticide, proper application equipment and needed safety equipment.

INSTRUCTIONS TO STUDENTS: Given a situation where the need for pest control is evident, select the proper pesticide, application equipment and safety equipment and apply at proper rate.

Materials Needed Identified pest problem
Pesticide application equipment
Safety equipment required
A variety of pesticides

COMPETENCY 045. Demonstrate the safe and proper use of sprayers, dusters and granular equipment.

TEST ITEM 045-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_______ 1. Herbicides	a. A plant that causes injury to a crop plant
_______ 2. Noxious weeds	b. Poisonous
_______ 3. Toxic	c. Used before the seedling emerges
_______ 4. Pre-emergence	d. A substance that kills vegetation
_______ 5. Post-emergence	e. Used after the seedling of the crop plant has emerged

TEST ITEM 045-00-02

INSTRUCTIONS TO STUDENTS: To the left of the statement, write TRUE if the statement is correct and FALSE if the statement is incorrect.

_______ 1. Pesticides should be purchased in the amounts needed at a given time

_______ 2. Should a small amount of a pesticide be left over, it should be placed in a small clean jar or other container and stored.

_______ 3. In case of an accident with pesticides where a doctor is needed, the pesticide label should be taken to the doctor along with the patient.

_______ 4. People applying pesticides regularly build up an immunity to them, therefore safety precautions are not necessary.

_______ 5. If only a small amount of a pesticide is left over, it should be poured out and the container be burned.

TEST ITEM 045-00-03

DIRECTIONS TO TEACHERS: Provide plants, chemicals, and equipment needed for spraying plants. Prepare observation check list for each student to be tested.

INSTRUCTIONS TO STUDENTS: Using materials and equipment provided, spray designated plants following correct and safe procedures.

TASK: Spray plants for the control of insects.

Materials Needed: Plants
Chemicals
Spray equipment
Respirators

COMPETENCY 046. Adjust and calibrate sprayers, dusters and granular applicators.

TEST ITEM 046-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

____ 1. The purpose of the calibration is to check the rate of application.

____ 2. Pesticide label direction usually call for a certain amount of chemicals per hectare or acre.

____ 3. At a given throttle setting, a sprayer power unit will usually travel at a faster rate of speed in plowed ground than on a hard surface.

____ 4. The difference between the amount of herbicide needed to kill weeds and the amount that will damage the crop may be very small.

____ 5. A major advantage is using granules is that no mixing is required.

____ 6. Two controls that all granular applicators have are on-off lever and a feeder-gate control.

____ 7. When using broadcast spinner spreaders, wind speed is not important.

____ 8. An increase in ground speed of the applicator increases the rate of application per acre.

____ 9. Application rates of granular applicators are affected by the size of granules.

___ 10. The lower the boom is set the more danger there is of spray drift.

___ 11. When applying spray in bands, the higher the nozzle is set above the surface, the wider the band will be.

___ 12. Using the highest operating pressure possible will extend pump life.

___ 13. Usually all nozzles on the boom should be the same type and should have the same spray pattern.

___ 14. When testing nozzle flow with jars, a worn nozzle tip will cause the jar to fill slower.

TEST ITEM 046-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice question, circle the letter of the most appropriate answer.

1. By which of the following can the rate of spray application be increased?

   a. Increase travel speed
   b. Lower spray pressure
   c. Raise the boom
   d. Use a larger nozzle tip opening

2. A change in ground speed changes the rate of application. Faster ground speed changes the volume applied per acre in what way?

   a. Increases
   b. Decreases

3. The best way to obtain a major chain in application rate is to change the size of the ______.
   a. Nozzle opening
   b. Sprayer

4. Accepted methods of calibrating sprayers are:

   a. Hectare (Acre) Volume Method
   b. Area-Volume Method
   c. Time-Volume Method
   d. All of the above

TEST ITEM-046-00-03

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

I. PROBLEM (SI): Hectare-Volume Method of Calibrating

Given: Width of boom, 3 meters.
Length of run, 300 meters.

Find: No of runs required for one hectare.
Use the formula.

$$\text{Runs/Hectare} = \frac{\text{10,000m2/h}}{\text{Length of run X width of boom or swath}}$$

Runs/
Hectare __________

2. PROBLEM (Customary): Acre Volume Method of Calibrating.

Given: Length of run, 660 feet
Width of boom, 10 feet

$$\text{Runs/Acre} = \frac{43{,}560 \text{ ft } 2/\text{a}}{\text{Length of run X width of boom or swath}}$$

Runs/Acre = ____________

3. PROBLEMS (SI) Hectares per tankful

Given: Tank capacity, 450 liters.
Rate of application, 251/h.

Find: No. of hectares to be sprayed with one tankful. Use the formula:

Hectares/tankful = __________________________

4. PROBLEM (Customary): Acres per tankful

Given: Tank capacity, 150 gals.
Rate of application, 6 gals/a

Find: No. of acres to be sprayed with one tankful, Use the formula:

$$\text{Acres/tankful} = \frac{\text{Tank Capacity}}{\text{Rate of application}}$$

Acres/tankful = ______________

5. PROBLEMS (SI): Area-Volume Method of Calibrating (Broadcast)

a. Are sprayed:

Given: Width of swath, 4 meters.
Length of run, 200 meters.

$$\text{Liters/hectare} = \frac{\text{Liters used}}{\text{Hectares sprayed}}$$

Liters/hectare = _____________

COMPETENCY 047. Make minor repairs and perform maintenance on sprayers, dusters, and granular applicators.

TEST-ITEM-047-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. All sprayer pumps are lubricated at the factory and require no further lubrication.
_____ 2. When equipped with a grease fitting, the crankpin bearing should be lubricated daily.
_____ 3. When checking the PTO mounted pump, if it turns easily by hand, it is ready for use.
_____ 4. The torque arm on a PTO-driven pump should be mounted with the chain tied above the torque arm.
_____ 5. Nozzle tips should be cleaned with a pocket knife or small wire.
_____ 6. Plugged line-strainer screens may cause pressure variations and loss of agitation.
_____ 7. A small leak in a suction hose does not matter because pump performance will not be affected.
_____ 8. A collapsed lining in a suction hose may stop the flow of liquid from the tank.
_____ 9. Spacing of one nozzle per row is often satisfactory for spraying small plants.
_____ 10. For most wettable powders and emulsifiable concentrates, flushing and rinsing is a satisfactory cleaning method.
_____ 11. To remove 2,4-D, no special measure are necessary.
_____ 12. Before storing, you should coat nozzle parts with oil.
_____ 13. The entire sprayer system should be flushed with a mixture of water and light oil before storing.
_____ 14. Equipment should be stored in a dry place.
_____ 15. Flushing the exterior parts of all pesticide application equipment with water is an important step in preparing for storage.
_____ 16. Sprayer nozzle should be cleaned with a stiff wire brush.
_____ 17. Equipment should be cleaned when changing to a different pesticide.
_____ 18. When cleaning pesticide equipment, you should select a place where the residue will not cause water pollution.
_____ 19. On sprayers, the nozzles should be removed and cleaned separately.

TEST ITEM 047-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Sprayer may be used to apply pesticides on:
   a. Gardens
   b. Orchards
   c. Waterways
   d. All of the above

2. Basic parts of a sprayer are:
   a. Pump
   b. Tank
   c. Nozzle
   d. All of the above

3. Tank sizes for pesticide formulations causes brass nozzles to wear faster?

   a. One quart
   b. 55 gallons
   c. 3 gallons
   d. 1000 gallons
   e. Any of the above

4. Which of the following pesticide formulas causes brass nozzles to wear faster?

   a. Solubles
   b. Aerosols
   c. Wettable powders
   d. Fumigants

5. Which of the following materials for nozzle tips are ranked as most durable?

   _____ a. Stainless steel

   _____ b. Hardened stainless steel

   _____ c. Brass

   _____ d. Plastic

TEST ITEM 047-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

Column A	Column B
____ 1. Spray nozzle	a. Contains several components
____ 2. Strainer	b. Is only a hull
____ 3. Cap	c. Collects trash
____ 4. Spray tip	d. Prevents damage to nozzle
____ 5. Nozzle body	e. Determines spray pattern

COMPETENCY 048. Describe the procedure for handling and repairing emergency plumbing problems.

TEST ITEM 048-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE If the statement is correct and FALSE if the statement is incorrect.

_____ 1. Rust and dirt can be removed by pushing a snake through the pipes.

_____ 2. When thawing frozen pipes, you should never thaw the center of a pipe first because the expansion of the water may break the pipe.

_____ 3. Plumbing fixtures should be kept solidly in place by tightening their supports when looseness appears.

_____ 4. If a faucet is noisy or difficult to operate it probably needs a new seat washer.

_____ 5. When the faucet leaks at the cap washer, the top washer or packing needs to be replaced.

_____ 6. Three are three types of water faucets: T-handle compression faucet, the round-handles compression washstand faucet, and the lever-handle faucet.

_____ 7. When joining two pieces of pipe together be sure to use packing materials in the unions to prevent leakage.

_____ 8. Boiling water is good to help unclog stopped up drains.

_____ 9. Boiling water is good for sewage-system also. It removes greasy collections.

_____ 10. Plastic pipe is now being used more than other types of pipe.

TEST ITEM 048-00-02

DIRECTIONS TO TEACHERS: Establish a work station and provide all materials and tools needed by the student to complete the task assigned.

TASK: Remove the trap under a laboratory.

INSTRUCTIONS TO STUDENTS: Given the problem of a clogged trap under a laboratory, perform the necessary steps to cut off the water, remove and clean the trap and replace it.

10 __________ 1. Cutting off water
25 __________ 2. Selecting correct tools
30 __________ 3. Removing and replacing the trap
10 __________ 4. Turning on the water
15 __________ 5. Checking for leaks
10 __________ 6. Returning the station to it's original condition

TEST ITEM 048-00-03

DIRECTIONS TO TEACHERS: Set up a work test station. The station should contains instructions and all materials needed by the student to complete the task identified.

TASK: Determine the plumbing needs for a certain job.

INSTRUCTIONS TO STUDENTS: Given the water system with pump and line established draw a sketch and determine the plumbing needs to tap into present system and run a water line to a new site. Turn in the completed sketch to the instructor.

COMPETENCY 049: Select correct plumbing repair parts.

TEST ITEM 049-00-01

INSTRUCTIONS TO STUDENTS: To the left of the each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Copper tubing is often used in water systems or in other places where corrosion or rust is undesirable.

_____ 2. A pipe coupling is used to join two pieces of pipe.

_____ 3. Plastic pipe has greatly increased in use. It does not rust or rot and it does not corrode.

_____ 4. A 45° elbow has threads on only one end.

_____ 5. Plastic pipe may be installed underground or on top of the ground.

TEST ITEM 049-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

____ 1. Plastic pipe

____ 2. Sealing compound

____ 3. Pipe reamer

____ 4. Copper tubing

____ 5. Good threads

COLUMN B

a. Comes in long lengths, as much as 600 feet per reel.

b. Used where corrision or rust is undesirable

c. Make good pipe fittings

d. Used on the threads of pipe to keep pipe from leaking

e. Used to remove the burr in a pipe

TEST ITEM 049-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

_____ 1. 45 ° elbow
_____ 2. Union
_____ 3. Plug
_____ 4. Coupling
_____ 5. Bushing
_____ 6. Tee

COLUMN B

a. Joins 3 pipes together
b. Pipes fit into each end
c. Fits in end of pipe
d. Connects two pipes where neither can be turned
e. Used to turn 45° angle
f. Reduces inside measurement of pipe

COMPETENCY 050. Repair or replace faucets and water hoses.

TEST ITEM 050-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE If the statement is incorrect.

_____ 1. The size of the pipe is determined by the inside diameter.

_____ 2. Elbows are used to change the direction of a run of a pipe.

_____ 3. The length of the pipe fittings do not have to be taken into account when measuring the amount of pipe required for the job.

_____ 4. Unions connect two pieces of pipe where neither one can be turned.

_____ 5. Most pipe drawings show dimensions from the center of one fitting to the center of the next.

TEST ITEM 050-00-02

INSTRUCTIONS TO STUDENTS: In the following mutiple-choice questions, circle the letter of the most appropriate answer.

1. The tool used to cut copper tubing:

    a. Hacksaw
    b. Tubing cutter
    c. Pipe cutter
    d. None of the above

2. The tool used to cut threads on the outside of pipe:

    a. Pipe threader
    b. Bolt die
    c. Bolt tap
    d. Tap wrench

3. The tool used to flare the ends of copper tubing:

    a. Pipe reamer
    b. Screwdriver
    c. Flaring tool
    d. Pipe wrench

4. The amount the pipe cutter should be tightened on each revolution:

    a. 1/2 turn
    b. 1/4 turn
    c. 1/8 turn
    d. 1 turn

5. The part of the total cost of a house that is spent on plumbing:

   a. 1%
   b. 5-10%
   c. 25%
   d. 20%

COMPETENCY 051. Open clogged drains.

TEST ITEM 051-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Plunger	a. Cleaning chemical used in opening clogged drains.
_____ 2. Building drain	
_____ 3. Snake	b. Opening close to upper edge of lavatory from which excessive water may escape.
_____ 4. Cleanout plug	c. A trap that has no clean out plug.
_____ 5. Overflow	d. A plug in the bottom of a trap.
_____ 6. Swing trap	e. Cleanout auger, flexible steel cables.
_____ 7. Drains	f. Plumbers friend.
	g. A cleanout plug in the basement away from the clogged toilet or lavatory.

TEST ITEM 051-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. A plunger is good for cleaning lavatory drains.

_____ 2. Water closets often get clogged with hair and lint.

_____ 3. Sand, dirt or lint sometimes clog floor drains.

_____ 4. On a clogged toilet or lavatory the blockage is always in the building drain.

_____ 5. For the plumber an electric tape is best.

TEST ITEM 051-00-03

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. Plug overflow before using ________.

2. Occasional _______ of floor drains may present clogging.

3. Roots growing through cracks or defective ___________ sometimes clog outside drains or sewer.

4. If a ___________ doesn't remove the clog on a water closet a closet auger usually will.

COMPETENCY 052. Make a simple drawing of a construction project.

TEST ITEM 052-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. For home use, drawing must be completed with all scales definitely defined in three dimension.

_____ 2. You should not plan to start a project with out a drawing board, T - square, ruler, no. 4 pencil and different angles that you need.

_____ 3. Ideas created on paper can often be transformed into useful projects.

_____ 4. Scale drawing will help put an idea in its proper perspective.

_____ 5. The most important projects start with good planning.

_____ 6. Lettering templates are a necessity for good drawing.

_____ 7. Drawings should be always be neat, complete with measurements, scale used and shows 3 views where needed.

_____ 8. A good working knowledge of drawing is necessary to read blue prints.

_____ 9. Small projects are often drawn with a 1/16 inch to 1 foot scale.

____ 10. With a little practice, most people can draw a house plan form which a good contractor can build.

TEST ITEM 052-00-02

INSTRUCTIONS TO STUDENTS: Drawa sketch below to identify the six views listed.

1. Left side
2. Top
3. Rear
4. Right side
5. Bottom
6. Front

TEST ITEM 052-00-03

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_______ 1. A sketch is visible plan.

_______ 2. A sketch should never show detail and dimension.

_______ 3. A sketch requires more skill than an orthographic drawing.

_______ 4. The three types of scales commonly used in agricultural industry are the architect's scale, the engineer's scale and the metric scale.

_______ 5. The basics in preparing to make orthographic drawings are dividing the view, selecting the scale, locating the title block and determining the center of the drawing paper.

COMPETENCY 053. Prepare a bill of material for a construction project.

TEST ITEM 053-00-01

INSTRUCTIONS TO STUDENTS: Figure out the board feet of lumber using the following bill of material.

Credit Allowed			Total Board feet
25 pts.	______	1. 6 pcs. 2 X 4 X 16	______
25 pts.	______	2. 4 pcs. 1 X 6 X 12	______
25 pts.	______	3. 10 pcs. 1 X 8 X 12	______
25 pts.	______	4. Total Amount	______

TEST ITEM 053-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

______ 1. A bill of material should only include the lumber used for the project.

______ 2. A bill of material should include all items used to make the finished project.

______ 3. Paints should be included in a bill of material.

______ 4. Types of fasteners would not be included in a bill of materials.

_____ 5. A bill of material should only include all items except the lumber for making a project.

TEST ITEM 053-00-03

INSTRUCTIONS TO STUDENTS: Sketch the plan, compute the bill of materials and construct small project.

COMPETENCY 054. Construct trellises and other simple projects.

TEST ITEM 054-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
___ 1. Wood and concrete post ______	a. Untreated posts.
___ 2. Treated post are heavier than _____.	b. Provide very little grounding for lightning.
___ 3. Steel post __________	c. White oak posts.
___ 4. Concrete post are more durable than ________.	d. Provide grounding for lightning when the ground is wet.

TEST ITEM 054-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____.1. The best material for trellis and outdoor lattice work is redwood, even though locally adapted cedar, pine and fir could serve just as well.

_____ 2. Railroad ties or treated timbers make good supports for raised shrubbery or flower beds.

_____ 3. Fences and trellis should not be painted the same color as the house, especially when they are some distance away.

_____ 4. A freestanding arbor constructed for a corner of a yard to provide privacy is not a good screening substitute.

_____ 5. The problem with using plastic corrugated materials for shade over patios is that there is likely to be an accumulation of heat.

TEST ITEM 054-00-03

INSTRUCTIONS TO STUDENTS: Complete the following statement by inserting the the correct answer(s) in the blank space(s).

1. _________ is a good material to use over a patio for shade and bad weather.

2. _________ pipe used as a frame for holding the canvas is stronger than galvanized pipe and will not rust.

3. One pattern often used in laying brick patio's is the ____________.

4. One of the easiest walks to lay is with _______________ , is using sand rather than mortar as a base and in the cracks.

5. _______ ____________ stepping stones make a good stepping stone walk.

COMPETENCY 055. Select materials needed to make repairs.

TEST ITEM 055-00-01

INSTRUCTIONS TO STUDENTS: Write a brief description for each of the following wood joints.

1. Dado
2. Rabbet
3. Butt
4. End lap
5. Middle lap
6. Tongue and groove

TEST ITEM 055-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

________ 1. Common nails are used on farms and in non-farm agricultural businesses more than any other type of nail.

________ 2. Lag screws are often used for fastening wood to a brick or concrete wall.

________ 3. Wood screws are often used for fastening wood to a brick or concrete wall.

________ 4. Carriage bolts have a square head and ordinarily used in assembling machinery.

________ 5. Machine bolts have a square or hexagonal head and are ordinarily used in assembling machinery.

TEST ITEM 055-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Highly fire resistant as roofing material

   a. Wood shingles
   b. Asbestos-cement shingles
   c. Galvanized steel
   d. Asphalt shingles

2. Excellent for heat reflection as roofing material

   a. Wood shingles
   b. Aluminum
   c. Asphalt shingles
   d. Asbestos-cement shingles

3. Highly fire resistant as siding material

   a. Tempered hardboard
   b. Wood siding
   c. Plywood
   d. Concrete block

4. Siding material not affected by termites

   a. Tempered hardboard
   b. Plywood
   c. Concrete
   d. Wood siding

COMPETENCY 056. Make minor repairs to doors, windows, furniture, etc.

TEST ITEM 056-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. The two main classes of woods are softwoods and hardwoods.

_____ 2. Most of the woods used in construction are hardwoods.

_____ 3. Paint is composed of pigment and a vehicle.

_____ 4. Aluminum paint is used to stop the bleeding through of creosote.

_____ 5. Cast iron contains a high amount of carbon and is easily bent.

TEST ITEM 056-00-02

DIRECTIONS TO TEACHERS:

a. Select five pieces of different kind of woods. (Use the same kind of wood at each station if more than one station is used.)

b. Number each piece of wood.

c. Reproduce student instructions and answer sheets for the number of students to be tested.

MATERIALS NEEDED: Five pieces of wood (for each station)

INSTRUCTIONS TO STUDENTS: Five pieces of wood have been placed on the table. Identify each piece and write answers in the appropriate space on the answer sheet provided.

TEST ITEM 056-00-03

DIRECTIONS TO TEACHERS:

a. Select five different kinds of metal. (Use the same kinds of metal at each station if more than one station is used.)

b. Number each piece of metal.

c. Reproduce student instructions and answer sheets for the number of students to be tested.

MATERIALS NEEDED: High Speed Grinders
Safety Goggles
Gloves
Metals

INSTRUCTIONS TO STUDENTS: Five pieces of metal, numbered 1-5, have been placed on the table adjacent to the grinder. You are to identify each piece of metal using the "spark" method. Safety goggles and gloves must be worn at all times during the conduct of this test. After each piece of metal is tested, mark your answer in the appropriate space on the answer sheet provided.

COMPETENCY 057. List the advantages of concrete for more specific areas around the home such as walks, drives, porches, and posts.

TEST ITEM 057-00-01

INSTRUCTIONS TO STUDENTS:

List five reasons for using concrete around the home.

1.

2.

3.

4.

5.

TEST ITEM 057-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in OClumn A.

COLUMN A

______ 1. Forming

______ 2. Edging

______ 3. Jointing

______ 4. Traveling

______ 5. Striking off

COLUMN B

a. Building, placing, and bracing of forms

b. Leveling off of concrete even with forms

c. Smoothing or finishing concrete

d. Making a radius on the edge of fresh concrete

e. Cutting grooves part of the way through the concrete

TEST ITEM 057-00-03

INSTRUCTIONS TO STUDENTS: To the left of each statement write true if the statement is correct and false if the statement is incorrect.

____ 1. It takes twice as long for concrete to cure in the summer as compared to that poured in winter.

____ 2. Forms should be made of dressed, tongue and grooved lumber.

____ 3. Paint inside of forms with crude oil or crankcase oil to help in easy removal of forms.

____ 4. Reinforcing steel used in concrete need not be clean.

____ 5. Reinforcing materials would be placed in the outer edge of a sidewalk even though the tension will be in the center.

COMPETENCY 058. Calculate the amount of concrete needed for specific jobs.

TEST ITEM 058-00-01

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. A bag of Portland Cement contains _______ cubic feet of cement.

   a. Five
   b. Two
   c. One
   d. Six

2. The type concrete that contains billions of tiny air bubbles.

   a. Air-entrained Portland Cement
   b. Aggregate
   c. Concrete
   d. Regular Portland Cement

3. When a silt test is run to determine the amount of silt in fine aggregate the highest level amount in a quart jar test is:

   a. 1"
   b. 1/2"
   c. 1/4"
   d. 1/8"

4. A walk of the following dimensions is to be poured with concrete - 10 ft. wide, 150 ft. long, 4" thickness. The number of cubic yards of concrete would be:

   a. 10 cubic yards
   b. 18.5 cubic yards
   c. 16.1 cubic yards
   d. 21.5 cubic yards

5. The amount of concrete used to pour a form of the following dimensions: 6 ft. high, 3 ft. wide, 10 ft. deep.

   a. 4.3 cubic yards
   b. 1.6 cubic yards
   c. 5 cubic yards
   d. 6.6 cubic yards

6. A walk of the following dimensions is to be poured with concrete - 10 ft. wide, 150 ft. long, 4" thick. The number of cubic yards of concrete would be:

   a. 10 cubic yards
   b. 18.5 cubic yards
   c. 16.1 cubic yards
   d. 21.5 cubic yards

TEST ITEM 058-00-02

DIRECTIONS TO TEACHERS: Set up the test station by providing all the materials needed by the student to complete the task identified. Provide instructions for each student being tested.

TASK: Calculate the amount of concrete for a given job.

INSTRUCTIONS TO STUDENTS: Assume a walk 4" thick and four feet wide that was poured by 4 cubic yards of concrete. Calculate the length of the walk given the above information.

TEST ITEM 058-00-03

DIRECTIONS TO TEACHERS: Set up the test station by providing all the materials needed by the student to complete the task identified. Provide instructions for each student being tested.

Materials needed:
- Two-1" X 4" X 12' for forms and stakes
- Strike-off board
- Cement float
- Metal trowel
- Sand
- Gravel
- Cement

INSTRUCTION TO STUDENTS: Using the materials provide finish the 3' X 5' concrete section with a smooth finish. Given the depth calculate the concrete needed.

Credit Allowed		Observation Check-list
20	_______	1. Selected proper tools
20	_______	2 Used tools properly
20	_______	3. Activity according to procedure
20	_______	4. Completed concrete job
20	_______	5. Observed safety precautions
100 Total		

COMPETENCY 059. Identify the most economical way to purchase concrete for a given task.

TEST ITEM 059-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

____ 1. Walk

____ 2. Foundation

____ 3. Post

____ 4. Picnic Table

____ 5. Drives

____ 6. Garages

COLUMN B

a. 7 bags of concrete per cubic yard

b. 6 bags of concrete per cubic yard

c. 5 bags of concrete per cubic yard

d. Special mix

TEST ITEM 059-00-02

INSTRUCTIONS TO THE STUDENTS: To the left of each statement write TRUE if if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Premixed cement from the builders supply may be too expensive for some home cement jobs.

_____ 2. Ready mix may be the best and most economical way to buy cement when there is a reasonable amount needed and no mixing equipment is available.

_____ 3. A trial mix should be made on any suggested mix you are mixing by hand.

_____ 4. Very wet sand and stone (aggregate) will cause the mix to require more water when mixing.

_____ 5. Foundations and footings that are underground require less cement per yard than cement exposed to weather.

_____ 6. A walk poured on a slope should be poured from the top of the slope to the bottom.

TEST ITEM 059-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. A walk 10 ft. wide, 200 ft. long and 4" thick is to be poured with concrete. The number of cubic yards of concrete would be?

   a. 10 cubic yards
   b. 25 cubic yards
   c. 29 cubic yards
   d. 18 cubic yards.

2. A bag of cement contains:

   a. 1 cubic foot of cement
   b. 1/2 cubic foot of cement
   c. 2 cubic feet of cement
   d. 1 1/2 cubic feet of cement

3. A bag of cement, job mixed by hand, will pour approximately.

   a. 1 cubic foot of concrete
   b. 3 cubic feet of concrete
   c. 6 cubic feet of concrete
   d. 10 cubic feet of concrete

COMPETENCY 060. Identify and determine the different types of fences and gates homeowners can install and types best for contractors to install.

TEST ITEM 060-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

____ 1. Picket (wood)

____ 2. Brick, block or stone

____ 3. Split rail

____ 4. Lay up rail

____ 5. Boards or panels

____ 6. Wire (chain link)

COLUMN B

a. Permanent boundary that matches buildings
b. Accent house into landscape of hills and fields
c. Private or secure section of homestead
d. Private part of a homestead
e. Blends plants and building into landscape
f. Create a setting for homestead

TEST ITEM 060-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. A gate that would fit a homestead using a brick and block fence would be:

   a. Wood
   b. Wire
   c. Wrought iron
   d. Aluminum

2. When split rails or lay up rails are used the gate that would match would be:

   a. Boards
   b. Panels
   c. Poles or rails
   d. Wire

3. Matching gates or wire and steel frames should always occur in:

   a. Board fence
   b. Wire or chain link
   c. Rails
   d. Bricks

4. Board fences used in the homestead to beautify and to be used as a livestock or lot fence should in most cases be:

   a. Wire
   b. Boards
   c. Pickets
   d. Vertical poles

5. A fence to create a private area in the homestead may be:

   a. Wire
   b. Vertical or horizontal panels
   c. Poles
   d. Pickets

TEST ITEM 060-00-03

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. Steel fence posts will provide some grounding for lightening if the ground is moist.

_____ 2. Red cedar post will last approximately 15-25 years without treatment.

_____ 3. Wood posts are the most expensive type post for the initial investment.

_____ 4. Wood fence posts may be treated on the farm with pentochlorophenol by the diffusion method.

COMPETENCY 061. Describe the correct procedure for installing simple fences and gates.

TEST ITEM 061-00-01

INSTRUCTIONS TO STUDENTS Complete the following statements by inserting correct answer(s) in the blank space(s).

1. Electric fences are controlled by a __________ ________________.
2. When installing a woven wire fence on hilly land, it is best to follow the _____________ of the land.
3. Post at the end or corners should be set in the ground at least __________.
4. Fence post for a woven wire fence should be about __________ apart.

TEST ITEM 061-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Depth a corner post for a woven fence should be in the ground
   a. 2'
   b. 3 1/2'
   c. 6'
   d. 18"
2. Spacing of line post for woven wire fences
   a. 30'
   b. 6'
   c. 15 to 16'
   d. 40'
3. Woven wire fences more than 40 rods in length should be divided by a
   a. Braced line post assembly
   b. End span assembly
   c. Braces
   d. Gate
4. Amount of the tension curve that should be removed when stretching woven wire fence
   a. None
   b. 1/3
   c. 3/4
   d. All

TEST ITEM 061-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Galvanized wire has	a. Installed easily and removed easily
____ 2. The electric fence can be	b. Installed to beautify the landscape
____ 3. The woven wire fence should be	c. A coating of zinc to delay rusting
____ 4. A board fence may be	d. Installed as a permanent fence

COMPETENCY 062. Describe conditions where paint is needed.

TEST ITEM 062-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Chalking	a. Paint coating turns dull with time
____ 2. Checking and cracking	b. A fungus which feeds on the paint coating
____ 3. Mildew	c. The results of weathering of the paint at the surface of the coating
____ 4. Fading	d. Breaks in the paint film which are formed as the paint becomes hard and brittle
____ 5. Soiling	e. Common under underhangs, and other areas protected with washdown

TEST ITEM 062-00-02

INSTRUCTIONS TO STUDENTS: Given a new or existing area needing paint, identify conditions, treat them and list recommendations.

TEST ITEM 62 00 03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. May result when a hard-drying coat of paint is applied over a soft undercoat

   a. Blistering
   b. Alligatoring
   c. Crawling
   d. Peeling

2. Increases life and improves appearances of farm buildings

   a. Wood preservatives
   b. Paint thinner
   c. Paint
   d. Varsol

3. Wrinkling or "running and sagging" of the paint film soon after the paint is applied

   a. Alligatoring
   b. Crawling
   c. Blistering
   d. Peeling

4. May be caused by heat when paint is applied to a surface containing moisture

   a. Alligatoring
   b. Crawling
   c. Blistering
   d. Peeling

COMPETENCY 063. Describe the difference between types of finishing materials and determine which one is needed for a specific job.

TEST ITEM 63-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

____ 1. Outside house
____ 2. Enamel
____ 3. Floor
____ 4. Barn
____ 5. Implement
____ 6. Concrete
____ 7. Aluminum
____ 8. Shellac
____ 9. Rubber base
____ 10. Water base
____ 11. Lacquer

COLUMN B

a. Prevents moisture entering
b. Porch and deck
c. Inside-outside wall paint
d. A substance used to preserve wood beneath the paint
e. Low grade bulk paint
f. Machinery paint used to prevent rusting
g. Prevents bleeding through of lead paint, used on metal surfaces
h. Inside-outside wall paint
i. Inside woodwork
j. Outside white paint
k. Used to finish metal

TEST ITEM 063-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

____ 1. The primary purpose of the pigment is to give body to the paint.
____ 2. The vehicle is the carrier of the pigment.
____ 3. Government specifications require paint to have 65% pigment and 35% vehicle.
____ 4. An extender decreases bulk in paint and lessens the cost.
____ 5. Turpentine is added to paint to make it penetrate better.

TEST ITEM 063-00-03

List five safety precautions related to the use of paint solvents:

COMPETENCY 064. Prepare surface for finishing.

TEST ITEM 064-00-01

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. In preparing for painting surfaces are sanded with ________ or ________ quality sandpaper.

2. Fine __________ __________ is good for smoothing out rough spots on rounded surfaces.

3. Cracks, nail holes and crevices are filled with _________ compound or __________.

4. Plaster surfaces must be at least 30 days old before they are painted with ________ _________ paints.

5. Waterbase paints can be applied to plaster surfaces after _______ hours.

TEST ITEM 064-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

____ 1. Alkalinic substances in fresh mortar will turn oil-base paints into a greasy soap-like substance which will prevent the paint from sticking.

____ 2. The danger in using a latex paint is that it is flammable.

____ 3. A dirty surface upon which latex paint is to be used must be washed or the paint will not cling to the surface.

____ 4. Knot sealers must be used on resin bleed knots before paint is applied.

____ 5. Even though latex paint is water soluble the surface to be painted must be dry or the paint will not stick.

TEST ITEM 064-00-03

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A

____ 1. Caulking

____ 2. Joint compound

____ 3. Set nail

____ 4. Spotting nails

____ 5. Taping

____ 6. Floating

____ 7. Finishing

____ 8. Bedding

COLUMN B

a. A method of completing the surface of a joint

b. Use of a flat tool to cover recessed nail spots with joint compound

c. A narrow strip of fibered paper imbedded in a joint compound which is used to cover wallboard joints

d. The application of joint compound over a joint prior to applying tape

e. The application of a sealant to surfaces or cracks for waterproofing purposes

f. To countersink a nail by use of a nail set

g. To apply joint compound and work with it into a smooth finish with trowel or putty knife

h. A mud like compound used for tape bedding and joint finishing

COMPETENCY 065. Apply paint, stain, and varnish safely and properly.

TEST ITEM 065-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

____ 1. In mixing paint the paddle should catch material in the bottom of the bucket and bring it to the surface.

____ 2. Initially 1/2 of the oil that is on top of the settled portion should be poured into an empty can.

____ 3. Turpentine is used to thin water base paint.

____ 4. An area for paint storage requires a room temperature above 70 degrees Fahrenheit.

____ 5. In applying paint the brush is dipped in the paint to 1/3 of the length of the bristles.

____ 6. The brush is grasped by the handle with the complete hand.

TEST ITEM 065-00-02

DIRECTIONS TO TEACHERS: Provide students the proper tools and equipment needed to demonstrate paint mixing.

INSTRUCTIONS TO STUDENTS: Demonstrate the proper way to mix paint.

Tools and Equipment:

1 gallon can of paint
Empty can
Mixing paddle
Thinner appropriate for type of paint

TEST ITEM 065-00-03

DIRECTIONS TO TEACHERS: Provide students tools and materials needed to apply paint.

INSTRUCTIONS TO STUDENTS: Apply paint properly and safely asdesignated by the teacher.

Materials Needed:

Can of paint
Flat brush
Drop cloth
Waste cloth
Area to be painted

COMPETENCY 066. Clean and store brushes and rollers properly.

TEST ITEM 066-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Roller	a. Alcohol as a solvent or cleaner
____ 2. Ferrule	b. Soap and water
____ 3. Latex	c. The material which covers the ends of the bristles next to the handle
____ 4. Shellac	
	d. Dip type, fountain type, pressure type
____ 5. Stains	
	e. Pigments dissolved at a low density in linseed oil

TEST ITEM 066-00-02

INSTRUCTIONS TO STUDENTS: Given brushes and or rollers that have been used in applying latex paint demonstrates appropriate cleaning techniques.

COMPETENCY 067. Demonstrate basic first aid skills.

TEST ITEM 067-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

____ 1. Shock patients should be kept warm and their heads kept low.

____ 2. Victims with broken bones should be moved immediately.

____ 3. In an electrical storm, the safest place to be is under a large tree.

____ 4. Cardiopulmonary resuscitation (CPR) should be used only when an accident victim is not breathing and has no pulse.

____ 5. A tourniquet should be used to stop bleeding only as a last resort.

TEST ITEM 067-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Mouth-to-mouth resuscitation	a. Bruises
____ 2. Hemoptysis	b. Tourniquet or cravat
____ 3. Second degree burn	c. Excessive bleeding - bright red
____ 4. Contusion	d. First-aid treatment for apnea
____ 5. Arterial hemorrhage	e. Coughing up blood
____ 6. Abrasion	f. Immediate and effective control of bleeding
____ 7. Direct pressure	g. Improvised stretcher
____ 8. Triangular bandage	h. Scrapes
____ 9. Blankets and poles	i. Redding of skin with blister
___ 10. Fireman's drag	j. Movement of injured victim without stretcher

COMPETENCY 067-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. The medical term for bruises is:

   a. Abrasion
   b. Concussion
   c. Contusion
   d. Cushion

2. A bandage may be used as a tourniquet or sling is a:

   a. Triangular bandage
   b. Two-tail bandage
   c. Dressing bandage
   d. Ace bandage

3. Excessive bright red bleeding is an indication of:

   a. Venual hemorrhage
   b. Arterial hemorrhage
   c. Capillary Hemorrhage
   d. None of the above

4. First aid treatment for apnea is:

   a. Back-pressure, arm-lift
   b. Oxygen
   c. Splinting
   d. Mouth-to-mouth resuscitation

5. The medical term that means coughing up blood is:

   a. Epistaxis
   b. Hemorrhage
   c. Hemoptsis
   d. Anorexia

6. The most effective and immediate means to control external bleeding is:

   a. Splinting
   b. Elevate legs
   c. Direct pressure
   d. Aminophylline

COMPETENCY 068. Identify five values of the home garden.

TEST ITEM 068-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE If the statement is incorrect.

____ 1. Fresh vegetables picked from the garden are preferable to those purchased at a market.

____ 2. Garden vegetables can be grown cheaper than they can be purchased.

____ 3. Everyone enjoys gardening because of the exercise it provides.

____ 4. The surplus produce gotten from a garden may be canned or frozen.

____ 5. All soils are suitable for the production of garden produce.

TEST ITEM 068-00-02

INSTRUCTIONS TO STUDENTS: Complete the following statements by inserting the correct answer(s) in the blank space(s).

1. By taking an active part in gardening ________ and _________ can learn many interesting things about agricultural life.

2. From a fair sized piece of land fruits and ____________ may be produced which would be valued at $400 per year.

3. In some instances young people may raise vegetables for sale and earn some _______ for themselves.

4. Unless one has eaten peas and sweet corn which was cooked directly from the garden he doesn't really know the ________ ________ of vegetables.

5. A garden is not complete unless it provides for ___________.

TEST ITEM 068-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Which vegetables are preferable from a nutritional standpoint?

    a. Canned
    b. Dried
    c. Freshly picked from the garden
    d. Frozen

2. Which vegetables and fruits are expected to taste better?

    a. Frozen
    b. Canned
    c. Dried
    d. Freshly picked from the garden

3. Economically fruits and vegetables can be more cheaply acquired by:

    a. Growing your own
    b. Getting them from a "you pick" farm
    c. Purchasing them fresh from a super market
    d. Purchasing them canned from a super market

4. The benefits from a home garden are:

    a. Economical
    b. Physical
    c. Mental
    d. All three of the above

COMPETENCY 069. Draw a plan for the home garden based on family size, crop preferences, a plant varieties.

TEST ITEM 069-00-01

INSTRUCTIONS TO STUDENTS: Match each vegetable variety in Column B with the vegetables listed in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Broccoli	a. Cayenne Long Red
____ 2. Cabbage	b. Charleston Grey
____ 3. Red cabbage	c. Better Boy
____ 4. Cauliflower	d. Black-seeded Simpson
____ 5. Cucumber	e. White Sweet Spanish
____ 6. Cantaloupe	f. Snow King
____ 7. Eggplant	g. Burpee Hybrid
____ 8. Lettuce	h. Green Comet
____ 9. Onion	i. Clamson Spineless
___ 10. Pepper (sweet)	j. Yellow Jubilee
___ 11. Pepper (hot)	k. Ruby Ball
___ 12.Pumpkin	l. Sweet 100
___ 13. Okra	m. Black Bell
___ 14. Squash	n. Early Golden Gooseneck
___ 15. Tomato (red)	o. Small Sugar
___ 16. Tomato (yellow)	p. Bell Boy
___ 17. Tomato (cherry)	q. Early Jersey Wakefield
___ 18. Watermelon	

TEST ITEM 069-00-02

INSTRUCTIONS TO STUDENTS: In the area below locate each designated vegetable for best exposure. Corn, okra, broccoli, radish, cabbage, squash, tomato, egg plant, pole lima beans, fresh lima beans, bush green beans and fresh potatoes.

SOUTH

NORTH

TEST ITEM 069-00-03

Acquire a chart that shows the number of plants or amount of seed needed for planting 15 different garden vegetables required to feed a family of four.

COMPETENCY 070. Select the proper site for a home garden.

TEST ITEM 070-00-01

INSTRUCTIONS TO STUDENTS: The following items related to determine the best site for a garden. Place a "d" beside the desirable items listed and a "u" besides the undersirable item.

_________ 1. On a steep slope.

_________ 2. Near large trees.

_________ 3. Near large shrubbery.

_________ 4. In frost pockets.

_________ 5. Near a source of water.

_________ 6. In poorly drained soil.

_________ 9. In waterlogged areas.

TEST ITEM 070-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE If the statement is incorrect.

_______ 1. The best location for a home garden is always near the house.

_______ 2. Tall crops should be placed so as not to shade other crops.

_______ 3. A smart gardener always start with a large garden.

_______ 4. Garden sites should be selected in early spring since nothing can be done during the winter months.

_______ 5. The dimensions of the garden can be used to determine the amount of seed to purchase.

TEST ITEM 070-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. If a fresh manure is applied to a home garden, the season in which it should be applied is:

   (a). Fall (b). Winter (c). Spring (d). Summer

2. Essentials for a good garden is (are)

   (a). Shade
   (b). Close to the house
   (c). Adequate sunlight and moisture
   (d). All of the above

3. A garden plan should be made so as to

   (a). Determine the seed needs
   (b). Determine the placement of the seed
   (c). Help control insect and disease problems
   (d). All of the above

4. A factor not to consider in planning a home garden is

   (a). The distance various plants are to be placed apart
   (b). Where seeds may be purchased
   (c). Can the producer eat all that is produced
   (d). Planting time and harvest dates.

5. Soil samples should be taken to determine

   (a). The moisture content of the soil
   (b). The soil particle size and shapes
   (c). The nutrient needs of the soil
   (d). The types of crops to plant.

COMPETENCY 071. Take soil samples and describe utilization of results.

TEST ITEM 071-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Soil fertility test	a. Animal manure
____ 2. Soil texture	b. Size of soil particle
____ 3. Permability	c. Air and water movement through the soil
____ 4. Soil pH test	d. Amount of Nitrogen, Phosphorous and Potassium in the soil
____ 5. Organic fertilizer	e. Acidity of the soil
____ 6. Ground limestone	f. Agent used to change pH level

TEST ITEM 071-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. _____ The pH range needed for most vegetables is:

   a. 3-4
   b. 4.5-5.5
   c. 5.5-6.5
   d. 1-2

2. _____ Which pH is alkaline?

   a. 2
   b. 4
   c. 6
   d. 8

3. _____ What is a neutral on the pH scale?

   a. 3
   b. 5
   c. 7
   d. 9

4. _____ Which of the following is the correct pH scale?

   a. 0-14
   b. 1-13
   c. 2-14
   d. 3-12

5. ______________ Which of the following pH values is most acidic?

a. 3
b. 5
c. 6
d. 8

6. ______________ How often should soil samples be taken to determine liming needs?

a. 3 yrs.
b. 5 yrs.
c. 7 yrs.
d. 9 yrs.

7. ______________ Soil should be collected from at least how many different sites over the garden for testing?

a. 1
b. 3
c. 6
d. 10

8. ______________ Soil tests are taken to determine:

a. Nutrient needs
b. Soil acidity
c. Soil structures
d. All of the above

9. ______________ One of the following are not required by plants to grow and reproduce:

a. Nitrogen
b. Phosporous
c. Potassium
d. Malathion

10. The best time to apply limestone is in the:

a. Fall
b. Winter
c. Spring
d. Summer

TEST ITEM 071-00-03

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

____ 1. A clay soil feels smooth and sticky to the touch.

____ 2. Soil fertility tests determine the available supply of Nitrogen, Phosphorus, and Potassium.

____ 3. Organic fertilizer is purchased in bags or in granular form.

____ 4. Soil fertilizer and soil acidity tests are usually done at the same time.

____ 5. A loamy soil is usually low in the required nutrients needed for plant growth.

____ 6. Soil texture refers to the size of the soil particles.

____ 7. Adjusting pH to the proper level improves the availability of nutrients to plants.

____ 8. The addition of organic matter can be an effective remedy to soils that have been overlimed.

____ 9. Lime can only be applied during spring.

___ 10. It is best to apply lime 3-5 months prior to planting.

___ 11. Sulphur may be used to decrease soil pH.

___ 12. Lime is used to decrease soil pH.

COMPETENCY 072. Select and obtain seeds and plant materials.

TEST ITEM 072-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Developing new varieties is complex and time consuming to plant breeders.

_____ 2. The amount of available growing space has nothing to do with selecting the container for propagation.

_____ 3. One of the strong points of container planting is the fact that a mixture can be prepared to satisfy the requirements of the plants to be grown.

_____ 4. Fertilization is best accomplished by adding a complete fertilizer either liquid or granular form.

_____ 5. The best type of water for plants is rain water.

_____ 6. Seed starter cubes enable the plants continued growth without a setback of transportation.

_____ 7. When watering with a garden hose, water the plants slowly.

_____ 8. Once transplanted, the seedlings should be drenched only once.

TEST ITEM 072-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Greenhouse benches may be constructed from all of the following except:

   a. Concrete
   b. Ropes
   c. Cypress
   d. Fiberglass

2. A coldframe does not have the following conditions:

   a. Heated and cooled area
   b. Glass or plastic covering
   c. Removable frames
   d. Growing media

3. A condition not needed for seed germination is:

   a. Soil
   b. Moisture
   c. Oxygen
   d. Heat or temperature

4. A method not acceptable as scarification is:

   a. Boiling water bath
   b. Overnight soaking
   c. Heating to 100° F
   d. Dipping in a dilute acid solution

TEST ITEM 072-00-03

INSTRUCTIONS TO STUDENTS: The following items relate to the selection of seeds or plants for use in the vegetable garden. Place a "d" by the item that are desirable and a "u" by those that are undesirable.

1. ______ Buy seeds or plants by variety names.

2. ______ Carefully estimate seed amount needed.

3. ______ Seed should be stored in a cool, dry, dark place.

4. ______ Seeds should be stored in an open container.

5. ______ Use disease resistant varieties.

6. ______ Avoid using homegrown seed.

7. ______ Select seeds tested for the current year for germination percent.

8. ______ Purchase seeds and plants from a reliable source.

9. ______ Use hybrid varieties.

10. ______ Collect seed from hybrid vegetables and use them next year.

11. ______ Consult with an agricultural extension agent if needed for information on proper varieties.

12. ______ Select plants that have been hardened off.

COMPETENCY 073 . Prepare the seed bed.

TEST ITEM 073-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. Steam and chemicals are the two best known ways of sterilizing soils.

_____ 2. Sterilizing soil with steam decreases soil granulation.

_____ 3. Moisture is an important factor to consider when sterilizing soil with chemicals.

_____ 4. Methyl bromide is an effective chemical used in soil sterilization.

_____ 5. Nematodes are killed instantly at 140° F.

_____ 6. Ammonia build-up may be a problem in steam sterilized soils.

_____ 7. To avoid after-steaming problems, sterilizing should be done in hot weather.

_____ 8. One advantage of chemical sterilization is that it gives good control of insects, weeds and nematodes.

_____ 9. Formaldehyde is not considered an effective chemical for sterilization.

____ 10. Soils may be sterilized by releasing pressure cylinders under plastic covers.

TEST ITEMS 073-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Methyl bromide	a. Gives good control of insects, weeds and nematodes.
_____ 2. Soil granulation	b. This may cause a problem by building up in sterilized soils.
_____ 3. Chemical sterilization	c. An effective chemical used in soil sterilization
_____ 4. Ammonia	d. Improves when soil is sterilized
_____ 5. Nematodes	e. Killed instantly at 140°F.

TEST ITEM 073-00-03

INSTRUCTIONS TO STUDENTS: Each students is to prepare a seedbed.

Materials Needed: Plot of soil
Equipment for tillage and cultivation

Credit Allowed	Observation Checklist	
20 points	1. Use of correct tools and materials	____________
40 points	2. Safety precautions are taken	____________
40 points	3. Proper preparation of soil	____________
100 points TOTAL		____________

COMPETENCY 074. Seed, transplant, fertilize, and cultivate garden plants.

TEST ITEM 074-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. Many seed are self-pollinated.

_____ 2. Seed germination is not dependent upon environmental factors.

_____ 3. Cold frames are widely used for growing plants from seed.

_____ 4. The source of heat in a hotbed is solar energy.

_____ 5. Controlling seed-decay is a problem when growing plants in cold frames.

TEST ITEM 074-00-02

DIRECTIONS TO TEACHERS: Provide materials needed and beds for planting seeds. Prepare observation check list for each student to be tested.

INSTRUCTIONS TO STUDENTS: Using materials provided, plant seeds correctly in hotbed or seed flat.

Materials Needed: Seed
Soil mix
Hotbed or seed flat
Water
Labels

TEST ITEM 074-00-03

DIRECTIONS TO TEACHERS: Provide plants, tools and other materials needed for garden vegetable plantings. Prepare observation check list for each student to be tested.

INSTRUCTIONS TO STUDENTS: With the tools provided, set designated plants in sites selected.

Materials Needed: Plants
Site
Appropriate tools
Fertilizer
Water

COMPETENCY 075. Identify and control garden insects.

TEST ITEM 075 00 01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE if the statement is incorrect.

_____ 1. A pest may be any troublesome animal, insect, plant or plant disease.

_____ 2. All adult insects have two body sections.

_____ 3. All insects are harmful and should be destroyed.

_____ 4. A plant disease is a harmful condition that makes a plant abnormal in appearance or function.

_____ 5. Animals with backbones are called vertebrates and are not considered pests.

TEST ITEM 075 00 02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
_____ 1. Insect	a. Highly toxic pesticides
_____ 2. Metamorphosis	b. Pesticide for mites, ticks and spiders
_____ 3. Ants	c. Insects without wings
_____ 4. Weevils	d. Summer annual weed
_____ 5. Mollusks	e. Stage of development
_____ 6. Viruses	f. Slugs and snails belong to this group
_____ 7. Acarcide	g. Used to control weeds
_____ 8. Herbicide	h. All adults have three body parts
_____ 9. Skull and crossbones	i. A plant disease
____ 10. Mustard	j. Damages stored products

TEST ITEM 075-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Which of the following insects have chewing mouth parts?
    a. Aphids
    b. Snails
    c. Flies
    d. Grasshoppers
    e. b & d only

2. Methods of controlling insects include.
    a. Physical means
    b. Chemical means
    c. Biological means
    d. All of the above

3. In which stages of an insect's life is the most damage done to plants?
    a. Egg
    b. Pupa
    c. Larva
    d. Adults

4. Insects are controlled by the use of.
    a. Herbicides
    b. Fungicides
    c. Insecticides
    d. Miticides

5. Which of the following are not beneficial insects?
    a. Ladybugs
    b. Bees
    c. Wasps
    d. Grasshoppers

COMPETENCY 076. Identify and control garden diseases.

TEST ITEM 076-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Nematodes	a. An abnormal growth or swelling.
____ 2. Captan	b. Disease characterized by orange spores on leaves and fruits.
____ 3. Gall	
____ 4. Canker	c. A general purpose fungicide.
____ 5. Rust	d. Microscope roundworms that attack certain plants.
	e. A localized dead area primarily found on trees.

TEST ITEM 076-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Disease causing agents are called pathogens.

_____ 2. Black spot is a disease found on roses.

_____ 3. Damping-off is a serious disease of young seedlings.

_____ 4. An example of a non-pathogenic disease is nitrogen deficiency.

_____ 5. Good management may prevent many diseases.

TEST ITEM 076-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. What of the following is not a characteristic of viruses?

   a. Are spread by pinching and disbudding
   b. Can be seen through a powerful microscope
   c. Are spread by suckling insects
   d. Are not carried by aphids

2. Which of the following does not apply to the habits of disease causing bacteria?

   a. Are spread by wind, rain and man
   b. Produce toxins or plug the vascular tissue causing plant death
   c. They do not enter through the stomates of the leaf
   d. Enter the plant through some injury

3. Fungi may be controlled by the use of.

   a. Benlate
   b. Fertilizer
   c. Melathion
   d. Sevin

4. Virus disease may be controlled by the use of.

   a. Malathion
   b. Sevin
   c. Captan
   d. None of the above

5. Fungi that obtains the food from living plants are called.

   a. Byrophytes
   b. Parasites
   c. Beneficial
   d. None of the above

COMPETENCY 077. Identify and control garden weeds.

TEST ITEM 077-00-01

INSTRUCTIONS TO STUDENTS: Collect, identify and mount ten weeds found in the garden common to the local area.

TEST ITEM 077-00-02

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct or FALSE If the statement is incorrect.

_____ 1. Steam and chemicals are the two best ways of sterilizing soil.

_____ 2. Sterilizing soil with steam decreases soil granulation.

_____ 3. Moisture is an important factor to consider when sterilizing soil with chemicals.

_____ 4. Methyl bromide is an effective chemical used in soil sterilization.

_____ 5. Nematodes are killed instantly at 140° F.

_____ 6. Ammonia build-up may be a problem in steam sterilized soil.

_____ 7. To avoid after-steam problems, sterilizing should be done in hot weather.

_____ 8. One advantage of chemical sterilization is that it gives good control of insects, weeds and nematodes.

_____ 9. Formaldehyde is not considered an effective chemical for sterilization.

____ 10. Soils may be sterilized by releasing pressure cylinders under plastic covers.

TEST ITEM 077-00-03

INSTRUCTIONS TO STUDENTS: In the following multiple-choice questions, circle the letter of the most appropriate answer.

1. Black polyethylene film is used to:

   a. Prevent water loss from containers
   b. Reduce weeds around containers
   c. Wrap soil balls on B & B stock
   d. None of the above

2. What is the lowest temperature at which most troublesome weeds, insects and disease organism are destroyed by steaming?

   a. 75°
   b. 100°
   c. 180°
   d. 300°

3. Which weed control method is not recommended for newly planted nursery stock?

   a. Cultivating
   b. Mulching
   c. Preventing weeds from seeding out nearby

4. Weeds cause loss to the nursery man by:

   a. Competing for light
   b. Competing for nutrients
   c. Competing for moisture
   d. Harboring troublesome insects and disease pests
   e. All of the above

5. A chemical applied to growing nursery stock to control weeds is called a:

   a. Pre-emergence nonselective herbicide
   b. Postemergence selective herbicide
   c. Pre-emergence selective herbicide
   d. None of the above

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COMPETENCY 078. Irrigate garden plants properly.

TEST ITEM 078-00-01

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate term in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Over-watering	a. An item used to water large trees.
____ 2. Soaker hose	b. An automatic method of watering clay pots.
____ 3. Terrarium effect	c. Causes root damage as a result of lack of oxygen.
____ 4. Wick watering	d. Enclosing the entire plant in a plastic bag.
____ 5. Root waterer	e. A system placed at or below the soil surface for supplying small quantity of water over a long period.

TEST ITEM 078-00-02

INSTRUCTIONS TO STUDENTS: In the following multiple-choice question, circle the letter to the most appropriate answer.

1. Garden plants generally.

   a. Do not require extra watering
   b. Are rather tolerant of short dry periods
   c. Do not need extra fertilizer
   d. Never need liming

2. Heavy watering with automatic sprinklers may tend to.

   a. Cause compaction
   b. Cause the soil to become waterlogged
   c. Cause poor aeration in the soil
   d. All of the above

3. Light sprinklings of water in hot weather tends to.

   a. Benefit summer weeds
   b. Benefit the garden plants
   c. Increase the uptake of fertilizer
   d. All of the above

4. You should periodically probe the soil at what depth to determine soil moisture?

   a. Top 12 inches
   b. Top 16 inches
   c. Top 9 inches
   d. Top 18 inches

5. As a general rule, watering should be carried out so as to.

   a. Wet each area to a depth of 6 inches
   b. Keep plants from growing too rapidly
   c. Not require over two waterings per week
   d. A and c, but not b

TEST ITEM 078-00-03

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. High rates of water are not associated with hot dry winds.

_____ 2. Plants have the highest water requirements when they are seedlings.

_____ 3. Consumption of water by plants varies with temperatures, hours of sunshine, humidity, and stage of plant development.

_____ 4. An experienced person may evaluate soil mixture by "feel".

_____ 5. When a soil has all the water it can hold against the pull of gravity it is said to be at the "Field capacity".

COMPETENCY 079 . Identify and describe harvesting methods.

TEST ITEM 079-00-01

INSTRUCTIONS TO STUDENTS To the left of each statement, write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Vegetables may be harvested as mature or immature depending on which is considered the edible stage.

_____ 2. Sweet corn and peas should be harvested at their peak sugar content and before toughing of the seed coat occurs.

_____ 3. A potato harvester digs, but does not pick up and load the potatoes.

_____ 4. White potatoes should be immature when harvested to avoid skinning and bruising.

_____ 5. Time of harvest is mainly determined by maturity and quality.

_____ 6. A roadside market is a retail establishment operating as a single retail entity where produce is bought for resale.

_____ 7. A pick-your-own operation is a market where produce is harvested by the farmer and retailed at a common location.

_____ 8. A pick-your-own operation would be more successful in a densely populated area than in a sparsely area.

_____ 9. Mini-gardening is an easy and economical alternative for apartment or condominium families.

TEST ITEM 079-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
1. Cauliflower	a. About two weeks after the leaves are tied and the head is white and compact.
2. Corn, sweet	b. Whenever they reach the desired size for for early use, for storage when tops are falling over with some green color remaining.
3. Onions	c. While the heads are still green and compact and before flowers show color.

4. English peas	d. About two weeks after the silk starts to turn brown and the kernels are shining bright and tender still in milk stage.
5. Squash, summer	e. When the fruit is dark purple and before they reach full size.
6. Tomatoes	f. When fruit is right color, generally red or yellow (depending on variety), uniform and firm.
7. Eggplants	g. When pods are still not filled and peas are tender, sweet and bright green.
8. Broccoli	h. When they reach the desired size and have a bright color and tender shell (skin).

TEST ITEM 079-00-03

Report to your class the methods which are used in your home for harvesting and storage of fruits and vegetables.

COMPETENCY 080. Describe storing and marketing practices.

TEST ITEM 080-00-01

INSTRUCTIONS TO STUDENTS: In the following multiple-choicequestions, circle the letter of the most appropriate answer.

1. Types of storages for fresh produce are:

   a. Short term
   b. Long term
   c. Temporary
   d. All of the above

2. A process by which bacteria, fungi and enzymes are prevented from breaking down the tissues of the preserved product is known as:

   a. Canning
   b. Freezing
   c. Pickling
   d. None of the above

3. prerequisites of good storage are:

   a. Proper temperature, humidity and aeration
   b. Maturity
   c. Color and firmness
   d. All of the above

4. Marketing of vegetables is usually done by:

   a. Pick your own
   b. Salesman
   c. Farmers' Market
   d. Only a and c

5. When marketed, apples and pears should be:

   a. Artificially colored
   b. Soft to the touch
   c. Firm and crisp
   d. Green and immature

TEST ITEM 080-00-02

INSTRUCTIONS TO STUDENTS: Match each statement in Column B with the most appropriate in Column A. Record the letter in the space to the left of the term.

COLUMN A	COLUMN B
____ 1. Jellies	a. Are made by cooking small whole fruits or small uniform pieces of larger fruits in a syrup until the fruit is saturated and the syrup is medium thick.
____ 2. Drying	b. Are made by cooking certain fruit juices with sugar until the jell stage is reached.
____ 3. Preserves	c. Are usually made by cooking fruits and vegetables in a vinegar-sugar solution, with or without spices, until desired flavor and/or texture is reached.
____ 4. Freezing	d. Water evaporating from the surface of a food.
____ 5. Pickles	e. Preserving food for rapid refrigeration.
____ 6. Canning	f. Preserving food in sealed cans or jars.

TEST ITEM 080-00-03

INSTRUCTIONS TO STUDENTS: Given the following information, please answer these questions:

Sweet potatoes - Storage costs $.50 per bushel

1. What would the storage costs of 10,000 bushels of sweet potatoes be? Answer ____________
2. Sweet potatoes sell for $4.50 a bushel in the fall. The farmer anticipates selling them for $6.00 per bushel in February. How much money can be made by storing the potatoes? Answer _________.
3. If a farmer's storage cost were $500, then how many bushels of sweet potatoes did he store? Answer _________.

COMPETENCY 081. Compare and contrast commercial amd home vegetable production.

TEST ITEM 081-00-01

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

_____ 1. Family requirements have a direct relationship on the size of the home vegetable garden.

_____ 2. The size is the same for a commercial and home vegetable garden.

_____ 3. Many vegetables in the home garden are harvested by mechanical means.

_____ 4. Harvesting for the commercial producer is most often done by hand.

_____ 5. Harvesters are used more often by commercial producers than by home gardeners.

_____ 6. In order to obtain the best flavor and color for tomatoes, harvest when they are partially green and allow them to ripen in direct sunlight.

_____ 7. Sweet corn should be harvested when the kernels are in the milk stage for optimum quality.

_____ 8. When the skin ceases to slip from pressure by the thumb is a good time to harvest potatoes.

_____ 9. The cool crops (cabbage, broccoli, etc.) will do better in the early spring than the late fall because the days are becoming longer and thus harvest period will be longer.

____ 10. A.M. harvesting is preferred over P.M. harvesting time because there will have been less evaporation, wilting and sugar content to be higher.

TEST ITEM 081-00-02

INSTRUCTIONS TO STUDENTS: Answer the following questions about marketing.

1. Name the two factors that determine price and the movement of products:

(1).
(2).

2. What tools can a producer use to plan the marketing of his product so that his risks are reduced?

   (1).
   (2).

3. What advantage does a futures contract have over a cash sales contract?

   Answer ____.

TEST ITEM 081-00-03

INSTRUCTIONS TO STUDENTS: To the left of each statement write TRUE if the statement is correct and FALSE if the statement is incorrect.

______ 1. The procedures of marketing are different for practically every product.

______ 2. The first step in marketing is to assemble the products.

______ 3. A successful farm manager needs to know how his products are marketed.

______ 4. The essential job of the marketing system is to make a product available when, where, and the way in which it is wanted.

______ 5. Little has been done in recent years to improve the efficiency of marketing.

7091 HOMESTEAD AND GARDENING SKILLS

TEST ITEM KEYS

001-00-01
1. F   4. F
2. F   5. T
3. F

001-00-02
1. b   5. g
2. d   6.e
3. f   7.c
4. a

001-00-03
1. d   4. c
2. b   5. b
3. a

002-00-01
1. T   4. T
2. T   5. T
3. F

002-00-02
a. First   e. Seventh
b. First   f. Fourth
c. Fourth   g. First
d. First

002-00-03
1. Fifty
2. Seventeen
3. Agriculture
4. Food, fibre.
5. Population

003-00-01
1. F   4. T
2. F.   5. T
3. T

003-00-02
1. f   4. e
2. b   5. a
3. c   6. d

003-00-03
1. Consists of personnel provided by the U.S. Dept of Agriculture to foster agricultural programs by working with agricultural groups or individuals.
2. Group of Teachers who provide instruction in agriculture to students in high school.
3. Treat sick animals (both farm and non-farm animals)
4. An organization of farmers that works to improve the farm situation.

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004-00-01
1. T 4. T
2. T 5. F
3. T

004-00-02
1. a 4. d
2. c 5. d
3. a

004-00-03
1. b 4. e
2. c 5. a
3. d

005-00-01
1. F 4. F
2. F 5. T
3. T

005-00-02
1. b 4. e
2. d 5. c
3. a

005-00-03
1. Opportunities
2. Agricultural competencies
3. Human
4. Placement advance
5. Leadership

006-00-01
1. T 4. T
2. F 5. F
3. T 6. F

006-00-02
1. a 4. c
2. d 5. e
3. b

006-00-03
1. d 3. c
2. c 4. c

007-00-01
1. c 5. e
2. d 6. b
3. d 7. f
4. d 8. a

007-00-02
1. Leadership cooperation citizenship
2. Country
3. themselves, work
4. intelligent
5. home

007-00-03
Learning to do
Doing to learn
Earning to live
Living to serve

008-00-01
1. g 7. f
2. h 8. d
3. k 9. c
4. j 10. a
5. b 11. e
6. i

008-00-02
1. Goal, standing committees
2. Advisors Handbook, Student Handbook
3. "Road Map"
4. teamwork, leadership skills
5. distributed, member

008-00-03
1. "FFA Leadership" and "Personal Development" series.
2. Vo/Ag/FFA pamphlet - What Is FFA?
3. Proficiency Award Applications
4. Chapter Guide to FFA Activities
5. FFA Activity Handbook
6. Official FFA Manual

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009-00-01

1. T 4. T
2. F 5. F
3. T

009-00-02

1. a 6.
2. 7. a
3. a,b,c 8. a,b,c
4. a,c 9. a
5. a,b 10. a,b,c

009-00-03

1. d 4. a 7. e
2. h 5. f 8. g
3. c 6. b

011-00-01

1. T 4. T
2. T 5. F
3. F 6. T

011-00-02

1. b 4. a
2. e 5. c
3. d

010-00-01

1. T 4. F
2. T 5. F
3. F

010-00-02

1. c 4. a
2. e 5. d
3. b

010-00-03

Answers will vary depending on type of SOE program selected vy each student.

Financial Statement

Assets	Beginning dates
Total inventory	$10,000.00
Accounts receivable	200.00
Cash value of life insurance	150.00
Cash in the bank	2,000.00
TOTAL ASSETS	$12,350.00
Liabilities	
Mortgage	500.00
Accounts Payable	1,000.00
Taxes due	50.00
TOTAL LIABILITIES	$1,550.00

Assets = $12,350.00
Liabilities -1,550.00
Net Worth $10,800.00

7091

012-00-01

1. T
2. F
3. F
4. T
5. T

012-00-02

Observation check-list should include: design; scale; plants selected; spacing balance; attractiveness.

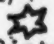
012-00-03

1. T
2. T
3. F
4. T
5. F
6. T
7. T
8. T
9. T
10. F

013-00-01

1. Scale
2. Drawing, T
3. Lead
4. Hard, soft
5. Compass
6. Symbols
7. Linear
8. Triangular

013-00-02

1. Arrow
2. 1/4"=10'
3. 
4. Distances
5. Area
6. Sketches and symbols

013-00-03

1. Sun, shade
2. Private
3. Odor
4. Public, private, service
5. Hedges
6. Utility
7. Pools, patios
8. Trees
9. Rest, relaxation, entertainment
10. Beauty

014-00-01

1. Soil
2. Centipede
3. Bermuda
4. Kentucky Bluegrass
5. Zoysia
6. Periwinkle
7. Tolerance
8. Ground covers
9. Shade
10. Moisture

014-00-02

1. c
2. d
3. a
4. b

014-00-03

Each correctly identified specimen will be worth 10 points

015-00-01

1. T
2. T
3. F
4. F
5. T
6. T
7. F
8. T
9. T
10. F
11. T
12. F
13. T
14. T
15. T

015-00-02

1. c
2. e
3. b
4. a
5. d

#091

015-00-03

Credit Allowed		Observation Check-list
20 points	________________	1. Correct use of tools and materials.
30 points	________________	2. Adhering to safety precautions.
50 points	________________	3. Soil preparations and seeding
100 points		Total

016-00-01

1. b   5. a
2. a.   6. b
3. b   7. c
4. c

016-00-02

1. T   4. F
2. T   5. T
3. T

016-00-03

Teacher will prepare a scoring check-list to accommodate turf mowing developed to assess student performance.

017-00-01

1. F   6. F
2. T   7. F
3. T   8. F
4. F   9. F
5. F   10. T

017-00-02

1. T   4. F
2. T   5. T
3. F

017-00-03

1. b   4. e
2. c   5. a
3. d

018-00-01

1. Nursery   6. Stake
2. Live   7. Fertilizer
3. Bare   8. Fall and Winter
4. Wind   9. Shovel
5. Larger   10. Watered

018-00-02

1. T   4. F
2. T   5. T
3. F

018-00-03

1. b   4. d
2. b   5. b
3. c

019-00-01

1. c
2. d
3. c

019-00-02

1. e   4. d
2. b   5. a
3. c

019-00-03

1. Pest
2. Moisture, light, nutrients
3. Decreased
4. Killing, repelling
5. Stomach

7091

020-00-01

1. e 6. b
2. g 7. b
3. d 8. f
4. e 9. a
5. c 10. h

020-00-02

1. Pomology
2. Climate, geographical
3. Climates
4. Marketing
5. Skill

020-00-03

1. T 4. F
2. T 5. F
3. F

021-00-01

1. T 4. T
2. F 5. F
3. T

021-00-02

1. c
2. d
3. b
4. c

021-00-03

1. Root
2. Training
3. Garden
4. Mulch
5. Tractors

022-00-01

1. T 6. T
2. F 7. F
3. T 8. T
4. T 9. F
5. T

022-00-02

1. c
2. b
3. a
4. a

022-00-03

1. c 4. g
2. d 5. f
3. b

023-00-01

1. d 5. a
2. h 6. e
3. f 7. g
4. b 8. c

023-00-02

1. d
2. d
3. a

023-00-03

Plant	Height (Feet)
1. Lily-of-the-Valley	1
2. Dahlia	2-6
3. Bleeding heart	2
4. Manarda	2-3
5. Chrysanthemum	2-4
6. Babysbreath	1-1½
7. Forget-me-not	1
8. Marigold	1-3
9. Petunia	1-2
10. Zinnia	1-3

024-00-01

1. T 6. F
2. T 7. T
3. F 8. F
4. T 9. T
5. T 10. T

024-00-02

1. a 4. d
2. e 5. b
3. c

024-00-03

Depending upon plant materials, and other conditions, scoring sheet will need to be prepared for evaluating student performance.

7091

025-00-01

1. x
2.
3. x
4. x
5.
6. x
7.
8. x
9. x
10.

025-00-02

1. d
2. b
3. e
4. a
5. c

025-00-03

Depending on plant materials selected, you will need to develop your own observation check list.

026-00-01

Depending upon plant materials and other conditions a check list will need to be prepared for evaluating student performance.

026-00-02

1. T
2. F
3. T
4. T
5. T

026-00-03

Depending upon plant materials and other conditions a check list will need to be prepared for evaluating student performance.

027-00-02

1. c
2. b
3. f
4. d
5. a
6. e

027-00-02

1. b
2. a
3. c
4. e
5. d
6. g
7. i
8. h
9. f

027-00-03

1. d
2. f
3. g
4. j
5. i
6. a
7. e
8. c
9. h
10. b

028-00-01

1. T
2. F
3. T
4. F
5. F

028-00-02

1. b
2. f
3. d
4. a
5. e
6. c

028-00-03

Assess student performance with use of observation check list.

029-00-01
1. Face shield, long gloves
2. Grease fittings, friction
3. Oiled, greased
4. Gum deposits, fire hazards
5. Owners manual

029-00-02
1. T 4. T
2. F 5. F
3. T

029-00-03
1. b 4. e
2. d 5. a
3. c

030-00-01
1. 5 to 11 HP
2. 7 to 18 HP
3. 18 to 80 HP
4. Air cooled, liquid cooled, electric
5. Mowing, towing, tilling

030-00-02
1. T 4. T
2. T 5. T
3. T

030-00-03
1. d 4. a
2. b 5. e
3. c

031 00 01
1. T 4. F
2. T 5. F
3. T

031 00 02
3. b 3. b
2. a 4. d

031 00 03
1. T 4. F
2. F 5. T
3. T

032-00-01
Assess student performance with use of observation check list.

032 00 02
Assess student performance with use of observation check list.

032 00 03
Depending on type of equipment available, you will need to develop your own check list.

033-00-01
1. T 5. F
2. T 6. T
4. F

033-00-02
1. b 4.e
2. d 5. c
3. a

034-00-01
1. T
2. T
3. F
4. T
5. F
6. T
7. T

034-00-02
1. Drop paper
2. Oil foam
3. Oil bath
4. Spark plug
5. Gasoline

034-00-03
Assess student performance with use of observation check list

035-00-01
1. T
2. F
3. T
4. T
5. F

035-00-02
1. a
2. c
3. e
4. b
5. d

035-00-03
1. 3 HP
2. Removable
3. 5
4. Tilled
5. Gasoline

036-00-01
1. T
2. F
3. T
4. T
5. T
6. F

036-00-02
1. Gasoline, cold
2. Out of gear
3. Left running
4. Caution, children
5. Touching exhaust

036-00-03
1. T
2. F
3. T
4. T
5. F

037-00-01
1. T
2. F
3. F
4. T
5. F

037-00-02
Assess student performance with use of observation check list.

037-00-03
Assess student performance with use of observation check list.

038-00-01
1. T
2. F
3. F
4. T
5. F
6. F

038-00-02
Assess student performance with use of observation check list.

038-00-03
Assess student performance with use of observation check list.

039-00-01
1. F
2. T
3. F
4. F
5. T

039-00-02
A. 3
B. 2
C. 6
D. 5
E. 4
F. 7
G. 1

039-00-03
1. e
2. b
3. c
4. a
5. d

040-00-01
1. c
2. b
3. a
4. a

040-00-02

1. g
2. d
3. b.
4. f
5. i
6. c
7. h
8. j
9. a
10. e

040-00-03

1. d
2. a
3. c
4. b
5. d

041-00-01

1. 4
2. 150
3. Test lamp
4. Water
5. Black or red
6. White
7. Bare or green
8. Circuit breakers
9. Fuse
10. Trip

041-00-02

1. c
2. b
3. d
4. c
5. a

041-00-03

Assess student performance with use of observation check list.

042-00-01

1. Duplex receptacle
2. Toggle
3. Three way toggle
4. Wire strippers
5. Long nose
6. Gauge
7. Panel box
8. Test lamp

042-00-02

a. Lineman's pliers
b. Conduit bender
c. Wire stripper-cutter
d. Vise-grip pliers
e. Keyhole saw
f. Fish tape and reel
g. Hacksaw
h. Test light
i. Amp volt meter
j. Wood chisel

042-00-03

a. Octagon box
b. Flush mount wall box
c. Single element fuse - 30 amp cartridge type
d. Time delay fuse - 40 amp cartridge type
e. Connector
f. Toggle wall switch
g. Toggle switch plate
h. Duplex receptacle plate
i. Duplex receptacle
j. 50 amp - 115/230 - V cord receptacle cap

043-00-01

1. a
2. c
3. d
4. b
5. a

043-00-02

1. d
2. b
3. c
4. a
5. b

043-00-03

Students will be graded by the teacher according to accepted wiring standards.

044-00-01

1. T
2. F
3. F
4. T
5. F

044-00-02

1. d
2. e
3. a
4. b
5. g
6. c

044-00-03

Student performance will be determined by the check list prepared by the teacher.

045-00-01

1. d
2. a
3. b
4. c
5. e

045-00-02

1. T
2. F
3. T
4. F
5. F

045-00-03

Depending on plants, chemicals and insects a check list to assess student performance will be developed by the teacher.

046-00-01

1. T
2. T
3. F
4. T
5. T
6. T
7. F
8. F
9. T
10. F
11. T
12. F
13. T
14. F

046-00-02

1. d
2. b
3. a
4. d

046-00-03

1. 11.1
2. 6.6
3. 18
4. 25
5. 08, 400

047-00-01

1. F
2. T
3. T
4. F
5. F
6. T
7. F
8. T
9. T
10. T
11. F
12. T
13. T
14. T
15. T
16. F
17. T
18. T
19. T

047-00-02

1. d
2. d
3. e
4. c
5. b

047-00-03

1. a
2. c
3. d
4. e
5. b

048-00-01

1. T
2. F
3. T
4. F
5. T
6. T
7. T
8. T
9. T
10. T

048-00-02

Student performance assessed with use of observation check list.

048-00-03

Student performance will be rated by teacher relative to completed sketch submitted by student.

049-00-01

1. T
2. T
3. T
4. F
5. T

049-00-02

1. a
2. d
3. e
4. b
5. c

Z091

049-00-03
1. e 4. b
2. d 5. f
3. c 6. a

050-00-01
1. T 4. T
2. T 5. T
3. F

050-00-02
1. b 4. b
2. a 5. b
3. c

051 00 01
1. f 5. b
2. g 6. c
3. e 7. a
4. d

051 00 02
1. T 4. F
2. F 5. T
3. T

051-00-03
1. Plunger
2. Flushing
3. Joints
4. Plunger, closet auger

052-00-01
1. F 6. F
2. F 7. T
3. T 8. T
4. T 9. T
5. T 10. T

052 00 02
1. Left side
2. Top
3. Rear
4. Right side

052-00-03
1. T 4. T
2. F 5. T
3. F

053-00-01
64
24
80
Grand total 168 board feet

053 00 02
1. F 4. T
2. T 5. F
3. T

053 00 03
Check project for adequacy of drawings, listing of materials and accuracy of measurements.

054-00-01
1. b 3. d
2. a 4. c

054 00 02
1. T 4. F
2. T 5. T
3. F

054 00 03
1. Canvas
2. Plastic
3. Herringbone
4. Brick
5. Cast concrete, stepping stone

055 00 01
Check descriptions for accuracy

055 00 02
1. T 4. F
2. T 5. T
3. F

055 00 03
1. c 3. d
s. d 4. c

056-00-01
1. T
2. F
3. T
4. T
5. F

056-00-02
Depending on kinds of wood used, develop an observation check list with which to assess student performance.

056-00-03
Depending on the kinds of metals selected develop an observation check list with which to assess student performance.

057-00-01
(Any 5 of the answers below are acceptable)
a. Adaptable and servicable in a variety of situations
b. Permanently and properly made
c. Sanitary and easily cleaned
d. More fireproof than other building materials
e. Economical in installation and maintenance
f. Easy to use

057-00-02
1. a
2. d
3. e
4. c
5. b

057-00-03
1. T
2. T
3. T
4. F
5. F

058-00-01
1. c
2. a
3. d
4. b
5. d
6. b

058-00-02
Teacher will assess student performance of this task.

058-00-03
Assess student performance with use of observation check list.

059-00-01
1. b
2. c
3. b
4. d
5. b
6. a

059-00-02
1. T
2. T
3. T
4. F
5. T
6. F

059-00-03
1. b
2. a
3. c

060-00-01
1. e
2. a
3. b
4. f
5. d
6. c

060-00-02
1. c
2. c
3. b
4. b
5. b

060-00-03
1. T
2. T
3. F
4. T

061-00-01
1. Fence controller
2. Contour
3. 3½ feet
4. 15' to 16'

061-00-02
1. b
2. c
3. a
4. b

061-00-03
1. c
2. a
3. d
4. b

062-00-01
1. c
2. d
3. b
4. a
5. e

062-00-02

Student assessment will be determined by the teacher on the basis of the students answers.

062-00-03

1. b   3. b
2. c   4. c

063-00-01

1. j   7. g
2. i   8. d
3. b   9. h
4. 4   10. h
5. f   11. k
6. a

063-00-02

1. F   4. F
2. T   5. T
3. T

063-00-03

1. Store away from heat
2. Use in well-ventilated area
3. Avoid spillage
4. Do not use for long period of time
5. Keep out of the reach of children
6. Keep hands and face clean

064-00-01

1. #1/0   # 2/0
2. Steel wool
3. Caulking, putty
4. oil based
5. 48

064-00-02

1. T   4. T
2. F   5. T
3. T

064-00-03

1. e   5. c
2. h   6. g
3. f   7. a
4. b   8. d

065-00-01

1. T   4. F
2. T   5. T
3. F   6. F

065-00-02

The students proficiency is assessed by the teacher and scored as to how well the task is performed.

065-00-03

The Students proficiency is assessed by the teacher and scored as to how well the task is performed.

066-00-01

1. d   4. a
2. c   5. e
3. b

066-00-02

Student performance will be determined by the teacher on the basis of how well the brushes and or cleaned.

067-00-01

1. T   4. T
2. F   5. T
3. F

067-00-02

1. d   6. h
2. e   7. f
3. i   8. b
4. a   9. g
5. c   10. j

067-00-03

1. c   4. d
2. a   5. a
3. b   6. c

068-00-01
1. T
2. T
3. F
4. T
5. F

068-00-02
1. Boys, girls
2. Vegetables
3. Money
4. Peas, sweet corn, delicious flavor
5. Fruits

068-00-03
1. c
2. d
3. a
4. d

069-00-01
1. h
2. q
3. k
4. f
5. g
6. g
7. m
8. d
9. e
10. p
11. a
12. o
13. i
14. n
15. c
16. j
17. l
18. b

069-00-02
Teachers will assess student performance on basis of logical and correct answers.

069-00-03
Correctness of answers checked against chart provided for answering the question

070-00-01
1. u
2. u
3. u
4. u
5. d
6. u
7. u
8. d
9. d

070-00-02
1. F
2. T
3. F
4. F
5. T

070-00-03
1. a
2. c
3. d
4. c
5. c

071-00-01
1. d
2. b
3. c
4. e
5. a
6. f

071-00-02
1. d
2. d
3. c
4. a
5. a
6. a
7. d
8. d
9. d
10. a

071-00-03
1. T
2. T
3. F
4. T
5. F
6. T
7. T
8. T
9. F
10. T
11. T
12. F

072-00-01
1. T
2. F
3. T
4. T
5. T
6. T
7. T
8. T

072-00-02
1. b
2. a
3. a
4. c

072-00-03
1. d
2. d
3. d
4. u
5. d
6. d
7. d
8. d
9. d
10. u
11. d
12. d

073-00-01
1. T
2. T
3. F
4. T
5. F
6. F
7. F
8. T
9. T
10. F

073-00-02

1. c 4. b
2. d 5. e
3. a

073-00-03

Student performance will be assessed by the teacher on basis of how well he or she completes the observation check list.

074-00-01

1. T 4. F
2. F 5. T
3. T

074-00-02

Observation check-list should include:
Soil mixed properly and in correct proportion; seedbed properly prepared; seed spaced properly; depth of planting; watered; labeled properly.

074-00-03

Depending on plants selected, soil conditions and other variables, the teacher will need to develop a checklist with which to assess student performance.

075-00-01

1. T 4. T
2. F 5. F
3. F

075-00-02

1. h 6. i
2. e 7. b
3. c 8. g
4. j 9. a
5. f 10. d

075-00-03

1. e 4. c
2. d 5. d
3. c

076-00 01

1. d 4. e
2. c 5. b
3. a

076-00-02

1. T 4. T
2. T 5. T
3. T

076-00-03

1. d 4. d
2. c 5. b
3. a

077-00-01

Kinds of weeds will vary according to student selection.

077-00-02

1. T 6. T
2. F 7. F
3. T 8. T
4. T 9. F
5. T 10. T

077-00-03

1. a 4. e
2. c 5. b
3. d

078-00-01

1. c 4. b
2. a 5. e
3. d

078-00-02

1. b 4. b
2. d 5. d
3. a

078-00-03

1. F 4. T
2. F 5. T
3. T

7091

079-00-01

1. T
2. T
3. F
4. F
5. T
6. T
7. F
8. T
9. F

079-00-02

1. a
2. d
3. b
4. g
5. h
6. f
7. e
8. c

079-00-03

Assessment of students report made by teacher.

080-00-01

1. d
2. c
3. a
4. d
5. c

080-00-02

1. b
2. d
3. a
4. e
5. c
6. f

080-00-03

1. $5000.00
2. $1.00/per bushel
3. 1000

081 00 01

1. T
2. F
3. F
4. F
5. T
6. T
7. T
8. T
9. T
10. F

081 00 02

1. (1) Supply
   (2) Demand
2. (1) Cash contracts, hedging
   (2) Price charts, weather forecast
3. A future contract can be reversed more easily than a cash contract.

081 00 03

1. T
2. T
3. T
4. T
5. F